NORTHWEST INTERSTATE COMPACT ON LOW-LEVEL RADIOACTIVE WASTE MANAGEMENT

HEARING

BEFORE THE

COMMITTEE ON THE JUDICIARY
UNITED STATES SENATE

NINETY-SEVENTH CONGRESS

SECOND SESSION

ON

S. 2829

A BILL GRANTING THE CONSENT OF CONGRESS TO THE NORTHWEST INTERSTATE COMPACT ON LOW-LEVEL RADIOACTIVE WASTE MANAGEMENT

Seattle, Washington

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NORTHWEST INTERSTATE COMPACT ON LOW-LEVEL RADIOACTIVE WASTE MANAGEMENT

TUESDAY, NOVEMBER 9, 1982

U.S. SENATE,
COMMITTEE ON THE JUDICIARY,
Seattle, Wash.

The committee met, pursuant to notice, at 10 a.m., in the Health Sciences Center, University of Washington, Seattle, Senator Alan K. Simpson (acting chairman) presiding.

Staff present: Sally Rogers, counsel, Committee on the Judiciary; James Curtiss, chief counsel and staff director, Nuclear Regulation Subcommittee; James H. Davenport, assistant counsel, Senate Environment and Public Works Committee; and Willis D. Smith of Senator Jackson's staff.

OPENING STATEMENT OF SENATOR SIMPSON

Senator SIMPSON. Good morning.

I apologize for the delay in getting started. We walked all through, I think, four different wards and labs, and assisted in an emergency care case and some other things before we arrived here. Slade was very helpful in all that.

I am pleased to be here to chair this hearing on behalf of the fine chairman of the Senate Judiciary Committee, Senator Thurmond, on this Northwest interstate compact on low-level radioactive waste management. Senator Thurmond has been a very remarkable leader in the areas of low-level waste disposal and it was largely due to his efforts in the 96th Congress on behalf of the Low-Level Radioactive Waste Policy Act that we now have in place the statutory framework that we do to insure that this Nation will have a safe and equitable system for the disposal of low-level waste.

While he would have liked to have been here today—I spoke with him yesterday—to chair this hearing himself, other commitments have prevented him from doing so. He has submitted a statement and that will, of course, be part of the record and will be introduced at the appropriate point in the record.

I would also like to welcome my colleague from this fine State, Senator Gorton. I just know of a no more able member of the new class of 1980 in the U.S. Senate than Senator Gorton, and I mean that sincerely. You should be very proud of him. He is the class of that class and a fine friend. I look forward to his expert counsel on this compact, and to working closely with him as the Senate proceeds with its consideration of S. 2829.

I wish to place the text of S. 2829 in the record at this time.
[The bill follows:]

[S. 2829, 97th Congress, 2d session]

A BILL Granting the consent of Congress to the Northwest Interstate Compact on Low-level Radioactive Waste Management.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the consent of Congress is hereby given to the states of Alaska, Hawaii, Idaho, Montana, Oregon, Utah, Washington, and Wyoming to enter into the Northwest Interstate Compact on Low-level Radioactive Waste Management, and to each and every part and article thereof. Such compact reads substantially as follows:

"NORTHWEST INTERSTATE COMPACT ON LOW-LEVEL RADIOACTIVE WASTE MANAGEMENT

"ARTICLE I—Policy and Purpose

"The party states recognize that low-level radioactive wastes are generated by essential activities and services that benefit the citizens of the states. It is further recognized that the protection of the health and safety of the citizens of the party states and the most economical management of low-level radioactive wastes can be accomplished through cooperation of the states in minimizing the amount of handling and transportation required to dispose of such wastes and through the cooperation of the states in providing facilities that serve the region. It is the policy of the party states to undertake the necessary cooperation to protect the health and safety of the citizens of the party states and to provide for the most economical management of low-level radioactive wastes on a continuing basis. It is the purpose of this compact to provide the means for such a cooperative effort among the party states so that the protection of the citizens of the states and the maintenance of the viability of the states' economies will be enhanced while sharing the responsibilities of radioactive low-level waste management.

ARTICLE II—Definitions

"As used in this compact:

"(1) "Facility" means any site, location, structure, or property used or to be used for the storage, treatment, or disposal of low-level waste, excluding federal waste facilities;

"(2) "Low-level waste" means waste material which contains radioactive nuclides emitting primarily beta or gamma radiation, or both, in concentrations or quantities which exceed applicable federal or state standards for unrestricted release. Low-level waste does not include waste containing more than ten (10) nanocuries of transuranic contaminants per gram of material, nor spent reactor fuel, nor material classified as either high-level waste or waste which is unsuited for disposal by near-surface burial under any applicable federal regulations;

"(3) "Generator" means any person, partnership, association, corporation, or any other entity whatsoever which, as a part of its activities, produces low-level radioactive waste;

"(4) Host state" means a state in which a facility is located.

ARTICLE III—Regulatory Practices

Each party state hereby agrees to adopt practices which will require low-level waste shipments originating within its borders and destined for a facility within another party state to conform to the applicable packaging and transportation requirements and regulations of the host state. Such practices shall include:

"(1) Maintaining an inventory of all generators within the state that have shipped or expect to ship low-level waste to facilities in another party state;

"(2) Periodic unannounced inspection of the premises of such generators and the waste management activities thereon;

"(3) Authorization of the containers in which such waste may be shipped, and a requirement that generators use only that type of container authorized by the state;

"(4) Assurance that inspections of the carriers which transport such waste are conducted by proper authorities, and appropriate enforcement action taken for violations;

"(5) After receiving notification from a host state that a generator within the party state is in violation of applicable packaging or transportation standards, the party state will take appropriate action to assure that such violations do not recur. Such action may include inspection of every individual low-level waste shipment by that generator.

"Each party state may impose fees upon generators and shippers to recover the cost of the inspections and other practices under this article. Nothing in this article shall be construed to limit any party state's authority to impose additional or more stringent standards on generators or carriers than those required under this article.

"ARTICLE IV—Regional Facilities

"(1) Facilities located in any party state, other than facilities established or maintained by individual low-level waste generators for the management of their own low-level waste, shall accept low-level waste generated in any party state if such waste has been packaged and transported according to applicable laws and regulations.

"(2) No facility located in any party state may accept low-level waste generated outside of the region comprised of the party states, except as provided in article V.

"(3) Until such time as paragraph (2) of article IV takes effect, facilities located in any party state may accept low-level waste generated outside of any of the party states only if such waste is accompanied by a certificate of compliance issued by an official of the state in which such waste shipment originated. Such certificate shall be in such form as may be required by the host state, and shall contain at least the following:

"(A) The generator's name and address;

"(B) A description of the contents of the low-level waste container;

"(C) A statement that the low-level waste being shipped has been inspected by the official who issued the certificate or by his agent or by a representative of the United States Nuclear Regulatory Commission, and found to have been packaged in compliance with applicable Federal regulations and such additional requirements as may be imposed by the host state;

"(D) A binding agreement by the state of origin to reimburse any party state for any liability or expense incurred as a result of an accidental release of such waste during shipment or after such waste reaches the facility.

"(4) Each party state shall cooperate with the other party states in determining the appropriate site of any facility that might be required within the region comprised of the party states, in order to maximize public health and safety while minimizing the use of any one (1) party state as the host of such facilities on a permanent basis. Each party state further agrees that decisions regarding low-level waste management facilities in their region will be reached through a good faith process which takes into account the burdens borne by each of the party states as well as the benefits each has received.

"(5) The party states recognize that the issue of hazardous chemical waste management is similar in many respects to that of low-level waste management. Therefore, in consideration of the State of Washington allowing access to its low-level waste disposal facility by generators in other party states, party states such as Oregon and Idaho which host hazardous chemical waste disposal facilities will allow access to such facilities by generators within other party states. Nothing in this compact shall be construed to prevent any party state from limiting the nature and type of hazardous chemical or low-level wastes to be accepted at facilities within its borders or from ordering the closure of such facilities, so long as such action by a host state is applied equally to all generators within the region comprised of the party states.

"(6) Any host state may establish a schedule of fees and requirements related to its facility, to assure that closure, perpetual care, and maintenance and contingency requirements are met, including adequate bonding.

"ARTICLE V—Northwest Low-Level Waste Compact Committee

"The governor of each party state shall designate one (1) official of that state as the person responsible for administration of this compact. The officials so designated shall together comprise the northwest low-level waste compact

committee. The committee shall meet as required to consider matters arising under this compact. The parties shall inform the committee of existing regulations concerning low-level waste management in their states, and shall afford all parties a reasonable opportunity to review and comment upon any proposed modifications in such regulations. Notwithstanding any provision of article IV to the contrary, the committee may enter into arrangements with states, provinces, individual generators, or regional compact entities outside the region comprised of the party states for access to facilities on such terms and conditions as the committee may deem appropriate. However, it shall require a two-thirds (⅔) vote of all such members, including the affirmative vote of the member of any party state in which a facility affected by such arrangement is located, for the committee to enter into such arrangement.

"ARTICLE VI—Eligible Parties and Effective Date

"(1) Each of the following states is eligible to become a party to this compact: Alaska, Hawaii, Idaho, Montana, Oregon, Utah, Washington, and Wyoming. As to any eligible party, this compact shall become effective upon enactment into law by that party, but it shall not become initially effective until enacted into law by two (2) states. Any party state may withdraw from this compact by enacting a statute repealing its approval.

"(2) After the compact has initially taken effect pursuant to paragraph (1) of this article, any eligible party state may become a party to this compact by the execution of an executive order by the governor of the state. Any state which becomes a party in this manner shall cease to be a party upon the final adjournment of the next general or regular session of its legislature or July 1, 1983, whichever occurs first, unless the compact has by then been enacted as a statute by the state.

"(3) Paragraph (2) of article IV of this compact shall take effect on July 1, 1983, if consent is given by Congress. As provided in Public Law 96-573, Congress may withdraw its consent to the compact after every five (5) year period.

"ARTICLE VII—Severability

"If any provision of this compact, or its application to any person or circumstances, is held to be invalid, all other provisions of this compact, and the application of all of its provisions to all other persons and circumstances, shall remain valid; and to this end the provisions of this compact are severable.".

SEC. 2. Congress finds that the compact consented to herein is in furtherance of the policy contained in section 4(a)(1) of the Low-level Radioactive Waste Policy Act of 1980 and with the intent of Section 274(b) of the Atomic Energy Act of 1954. In order that this compact may be given full effect, the Nuclear Regulatory Commission is authorized and directed to require licensees subject to its jurisdiction under the Atomic Energy Act of 1954 to comply with the provisions of this compact. The Commission shall consult and cooperate with the states which are parties to this compact in carrying out this section.

SEC. 3. The Consent of Congress granted pursuant to this act is limited by the following conditions:

(a) Notwithstanding the provisions of Article V and Article VI, Paragraph (3) of the Northwest Interstate Compact on Low-Level Radioactive Waste Management, Article IV, paragraph (2) of that compact shall not take effect until January 1, 1986.

(b) The right of Congress to alter, amend, or repeal this Act is hereby expressly reserved.

REGIONAL COMPACT CONCEPT

Senator SIMPSON. Senator Gorton introduced this measure to provide for the required congressional consent to a compact of States—Washington, Idaho, Oregon, Utah, Hawaii, Alaska, Wyoming, my State is participating in two negotiations, and Montana—formed for the purpose of providing for the regional disposal of low-level radioactive waste. I think it is most appropriate that we meet today on this, the first compact to be submitted, in a State with a long and close association with all aspects of nuclear power production—and particularly, waste disposal. This State has for many years been one of a

handful that has hosted sites for the disposal of low-level radioactive waste from across the Nation. Thus, I think it fitting that this region has taken the first step in submitting a regional compact for congressional consent.

It is particularly pleasing for me to see the regional low-level waste disposal concept called for under this legislation moving forward, and I commend all of you here today who are responsible for the drafting of the Northwest compact. Your diligent efforts and prompt submission of a compact for congressional consent should serve as an example to other regions, and we watch it closely as I Chair the Nuclear Regulations Subcommittee.

So, with that I look forward to hearing the testimony of the witnesses we have here today, an extraordinary array of witnesses, and since the Congress must now determine whether to grant its consent to this compact, I will be especially interested in the views of the witnesses on whether this compact is compatible with the Low-Level Radioactive Waste Policy Act. In particular, I would hope that each of the witnesses will address the July 1, 1983, exclusionary date issue, and the provision in article IV requiring a certificate of compliance for wastes generated outside of the compact region. In addition, I look forward to hearing the views of each witnesses on whether the provisions of article III create the potential for incompatible State regulation of the packaging and transportation of low-level wastes—areas in which the Nuclear Regulatory Commission obviously has already spoken and Department of Transportation has promulgated uniform national standards.

I'm looking forward to an interesting hearing, and once again I thank you all for your presence here.

I place into the record the statements of Senators Thurmond, Jackson, Packwood and Hatfield, also that of Governor Atiyeh.

[The prepared statements follow:]

PREPARED STATEMENT OF SENATOR STROM THURMOND

I regret that my schedule does not permit me to travel to Seattle today to participate in this hearing on S. 2829, a bill introduced by the distinguished junior Senator from Washington State. This bill would grant the consent of Congress to the Northwest Interstate Compact on low-level radioactive waste management. The issues which will be discussed in this hearing are very important because their proper resolution is crucial to our moving toward an efficient system for disposal of low-level radioactive waste in regional located sites.

As many in attendance today may be aware, I have had a long-standing interest in the problem of low-level radioactive waste disposal. In the summer of 1980, following a near crisis situation in mid-1979 when two of three commercial low-level sites were temporarily closed, I offered an amendment regarding low-level waste disposal to S. 2189, a comprehensive nuclear waste bill being considered on the Senate Floor. My amendment, a precursor to the Low-Level Radioactive Waste Policy Act, authorized and encouraged the States to enter into interstate compacts to dispose of low-level waste on a regional basis. It also gave the compacts entered into pursuant to that provision authority to exclude waste produced outside the compact area. In December 1980, when the House and Senate were unable to agree on a more comprehensive measure, the provisions regarding low-level waste disposal were split out of the larger bills and enacted into law.

Passage of the P.L. 96-573, the Low-Level Radioactive Waste Policy Act of 1980, was a major step toward resolving a problem which had previously received far less attention than the issues of high-level waste disposal and interim storage of commercial spent fuel. This lack of a sense of urgency was easy to understand. As long as there were three commercial sites open and providing adequate storage space, there was no impetus for other States to address the

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troublesome issues involved in siting, licensing, and operating new sites. If you represented, as I did, a State hosting one of these sites, this situation was clearly an untenable one. It placed three States—South Carolina, Washington, and Nevada—in the position of shouldering the entire responsibility for disposing of waste produced by all fifty States. The fundamental unfairness and inefficiency of this system was clearly brought to light in 1979 when the Governors of Washington and Nevada temporarily closed those sites and the Governor of South Carolina announced that the amount of waste accepted at the Barnwell site would be significantly reduced. South Carolina, Nevada, and Washington sent a clear warning signal to other States and to the Federal government that action needed to be taken. Fortunately, I and other legislators who were concerned about this issue were able to capitalize on this new understanding of the low-level waste disposal problem to secure passage of a much-needed law.

The Low-Level Radioactive Waste Policy Act, as did my amendment, established the policy that each State is responsible for disposal of the commercial low-level waste generated within its borders and that such waste can be most safely and efficiently managed on a regional basis. It authorized States to enter into compacts to establish and operate such sites and require subsequent Congressional approval of these compacts. A final and very important provision was the authority given to compacts to exclude wastes from outside the compact regional after January 1, 1986.

Pursuant to P.L. 96–573, States have been engaged in the process of negotiating interstate compacts to provide for disposal of their low-level waste. Obviously, some compact groupings are further along than others in the process of approving a compact. S. 2829, granting Congressional consent to the Northwest Compact, is the first such bill to be introduced in the Senate. I expect and hope that the Southeast Compact, which includes my State of South Carolina, will be ready for introduction early in the next Congress. These compacts are being referred to the Committee on the Judiciary, of which I am Chairman, because of that Committee's jurisdiction over interstate compacts generally. Of course, I would encourage and welcome the interest and participation of members of other Committees having a greater expertise in the specific subject matter of these compacts. Further hearings on the issues involved in low-level waste interstate compacts will be held early in the next Congress, and I expect the Committee to begin the process of approving legislation regarding individual compacts shortly thereafter. The 1986 date, after which Congressionally approved compacts may begin to exclude waste from non-compact States, is fast approaching; and it is important that these compacts be in place so that new disposal sites can be developed in a timely fashion. States can be assured that each compact will be carefully scrutinized, with particular attention being given to whether the provisions of the compact are compatible with those of Low-Level Policy Act.

I would like to express my appreciation to my good friend and distinguished colleague, Senator Simpson, for agreeing to chair this hearing. Senator Simpson is both a member of the Judiciary Committee and Chairman of the Nuclear Regulation Subcommittee of the Environment and Public Works Committee. I can't think of a more knowledgeable individual to chair this first hearing on low-level waste interstate compacts. I would also like to thank Senator Gorton for his interest and participation in consideration of this important issue. I am pleased that the Committee was able to accommodate his request for a field hearing on S. 2829.

Finally, I would like to thank the witnesses who have agreed to present testimony today. I am sure that their comments will prove to be extremely helpful to the Committee in its consideration of the Northwest Compact and other compacts. I offer a special welcome to Governor Spellman and other officials of the State of Washington who have played such a significant role in the creation of the Northwest Compact.

PREPARED STATEMENT OF SENATOR HENRY M. JACKSON

Today's hearing is being held to receive the testimony and views of state and local government officials and public witnesses on important legislation now pending before the Congress. A bill, S. 2829, has been introduced by Senator Gorton and me along with several other Senators to grant the consent of the Congress

to the Northwest Interstate Compact on Low-Level Radioactive Waste Management. I am pleased that this hearing is being held and want to thank Senator Thurmond, as Chairman of the Senate Judiciary Committee, and Senator Simpson, also a member of that Committee, for arranging today's hearing.

The issue of how to dispose of the low-level radioactive wastes from commercial activities has become a greater public concern over the past 5 or 6 years. Historically, there were six operating commercially owned low-level waste disposal sites in the nation. These sites were operated under government regulation pursuant to the Atomic Energy Act of 1954, as amended. The actual regulation has been through state government agencies based on the Agreement States Provision of the Atomic Energy Act which transfers the regulatory function to the state level at the request of a host state. In recent years, three of the six commercial low-level waste disposal sites have been closed due the host states' concerns over the operation of those facilities and, consequently, their discouragement of the continuation of those operations. This has resulted in an increased burden on the remaining three commercial low-level waste disposal facilities.

In the past 2 or 3 years, there have been incidents of concern by each of the three states regulating these commercial disposal facilities and heightened public concern over the safety of the transportation and disposal of the low-level wastes at these sites. There is a growing and legitimate concern on the part of individuals that their state not become the disposal site for all of the nation's low-level radioactive wastes.

It was in this context that in 1979 I included a title dealing with low-level radioactive waste in the Comprehensive Nuclear Waste Management bill. This title which was included in the Nuclear Waste Management Policy Act and passed by the Senate in 1980 was the first attempt to establish a national policy on low-level waste disposal. When the House and Senate reached an impasse on other facets of the nuclear waste legislation, we were able nevertheless to pass a law establishing a clear policy for disposal of low-level radioactive wastes.

The National Governors' Association and the State Planning Council had adopted a policy statement that the Federal government should assume the responsibility of high-level radioactive wastes and that the states would assume the responsibility for the disposal of low-level radioactive wastes. However, the governors felt that this should be accomplished on a regional basis. Toward that end, the Congress passed the Low-Level Radioactive Waste Policy Act, Public Law 96–573, in the waning days of the 96th Congress. This Act proposed that regional interstate compacts be developed for the disposal of low-level radioactive wastes from within the region and to permit the regulation and even exclusion of low-level wastes from outside of the region after January 1, 1986. In order not to violate the Constitution, each of these regional compacts were to be ratified by the Congress prior to their becoming effective.

States in various regions of the country moved toward establishment of affiliations for dealing with the low-level radioactive waste problem. In the Northwest, the States of Washington, Oregon, Idaho, Utah, Montana, Wyoming, Alaska and Hawaii have developed the compact embodied in S. 2829, and it has been ratified by several of those state legislatures and approved in other cases by executive orders of the governors. Parallel efforts have been developed by states in the various regions of the rest of the nation. In fact, the Department of Energy has prepared and submitted to the Congress a status report on the low-level radioactive waste compacts which was transmitted on October 19, 1982. I recommend that the Committee include at least excerpts, and perhaps the entire report, in the record of this hearing to provide an understanding to all interested parties of how each region is proceeding toward development of its compact.

Some individuals believe that each state should take care of its own radioactive wastes and not permit wastes from outside its borders to be disposed of within that state. Some people are of the view that their states should not be used for disposal of even their own wastes. In the State of Massachusetts, on November 2, a referendum passed that could preclude the disposal of non-medical low-level waste in the State from even its own generators. However, this only emphasizes the absolutely essential requirement that regional compacts be established and ratified by the Congress.

No one state must be made to feel that it is receiving an undue burden for disposal of low-level radioactive wastes from the other states in our country. At the same time, a regional solution is necessary because few states generate sufficient low-level wastes to justify on an environmental or an economical basis

the opening of a separate site in each state for low-level waste disposal. About six to eight regionally located sites can meet the nation's total requirements. Additionally, there are other issues on which states in a region must cooperate. For instance, a state that operates a low-level waste disposal facility may benefit from the agreement by another state in the region to shoulder the burden for the region's problem in some other respect, such as chemical waste disposal.

The State of Washington and its citizens have been very responsible with regard to solving the national nuclear waste problem. In addition to the operation of one of the low-level radioactive waste disposal sites, our State is storing more than 60 percent of the radioactive wastes from the defense programs of the Department of Energy. Now it is time that disposal sites are developed in other areas of the country so that we can begin to limit the burden that the State of Washington must bear. The enactment of a law ratifying the Northwest Interstate Compact will bring pressure on the other states to act quickly to solve their own low-level waste problems on a regional basis.

PREPARED STATEMENT OF SENATOR BOB PACKWOOD

Mr. Chairman, I am pleased to take this opportunity to comment today on S. 2829, which gives Congressional consent to the Northwest Interstate Compact on Low-level Radioactive Waste Management. This compact has been approved by each of the eight participating states and lacks only the approval of Congress to go into effect. It is my hope that Congressional ratification will be accomplished before the end of this Congress.

As we all know, the need to store properly our radioactive waste has provoked a controversy that has raged for several years. For years, Congress has debated the role of the federal government, the proper method of waste disposal, the best locations, and so on. Two years ago, with the passage of PL 96-573, Congress finally established a policy for the disposal of varying levels of radioactive waste.

In Section 4 of that Act, we urged the individual states to work together to develop regional solutions to the problem of low-level waste disposal. This regional approach to handling low-level radioactive waste allows each section of the country to utilize the best available storage sites and eases the problems of transporting radioactive waste. Eight northwestern states (Alaska, Hawaii, Idaho, Montana, Oregon, Utah, Washington and Wyoming) have now agreed to a compact which was designed to meet the recommendations Congress set forth in PL 96-573. My own state of Oregon is one of the participants in this agreement, which is the first such interstate compact to be agreed on.

For Oregon, the ratification of this compact will mean continued access to the waste disposal site in Hanford, Washington. Oregon state law prohibits the disposal of radioactive waste within state boundaries. Instead, Oregon and Washington have cooperated over the years in the disposal of radioactive waste and chemical waste. Although the compact does not cover the waste fuel from civilian nuclear power plants, it will allow Oregon to continue using the Hanford site for disposing of low-level radioactive waste.

From a national perspective, I believe it is important for us to encourage states to solve the problems of low-level radioactive waste management on a regional basis. As a representative of my home state of Oregon, I realize the benefits this compact will have for each of the participating states. It is my hope that the Committee will recommend passage of S. 2829, and that Congress will approve it before the end of this year.

PREPARED STATEMENT OF SENATOR MARK O. HATFIELD

Mr. Chairman, I wish to take this opportunity to thank you for holding a field hearing on S. 2829, the Northwest Interstate Compact on Low-Level Radioactive Waste Management. On August 12, 1982, I joined with my distinguished colleagues from the States of Washington, Montana, Utah and Hawaii in cosponsoring this important legislation which establishes the framework for resolution of low-level radioactive waste materials in this region of the United States.

The states in the Pacific Northwest have taken Congress' invitation in S. 2189, the Nuclear Waste Policy Act of 1980, to form a regional compact to address

this issue. The states of this region have worked long and hard on this compact. They have arrived at a result that equitably treats the interests of all the citizens of the region. The compact also acknowledges the cooperation that the states must make in resolving non-radioactive waste substances and provides an example that other regions of the country might follow. In moving so quickly to reach an agreement on a compact, the states of this region are not only resolving their own radioactive waste problems, but assisting the nation by effectively implementing Congressional policies calling for a state initiative and provding an example that other states can follow.

Mr. Chairman, the management of low-level radioactive wastes is important not only to my state, but to every state that shares in the dilemma of what to do with the wastes. Many schools and hospitals in Oregon produce low-level radioactive wastes that must be disposed of. Oregon's only nuclear power-generating facility, Trojan, located at Ranier, also produces quantities of low-level radioactive wastes that require special disposal. This compact, if ratified by Congress, will allow states such as mine to reach agreements on disposal of these wastes. In Oregon's case, an agreement to accept chemical wastes at the Arlington, Oregon site, from other states in exchange for reciprocal agreement on the acceptance by other states in the compact, of Oregon's low-level radioactive wastes. This, Mr. Chairman, is what was envisioned under the Nuclear Waste Policy Act and has been accomplished by the states involved in the Northwest-Interstate Compact.

Other regions of the country are working on their own compacts which reflect their unique regional needs and circumstances. S. 2829 is an effective answer to Congress' call for state initiative, and I urge this Committee to recommend ratification of the compact by the full Congress.

I believe that Congress should expeditiously move on this matter as a good faith effort in responding to responsible state actions to solve a serious and complicated matter.

Thank you for the opportunity to express my views on this important regional legislation.

STATE CAPITOL,
OFFICE OF THE GOVERNOR,
Salem, Oreg., November 2, 1982.

Senator STROM THURMOND,
Chairman, Senate Judiciary Committee,
U.S. Senate, Washington, D.C.

DEAR SENATOR THURMOND: I want to thank you for holding field hearings on S. 2829, the Northwest Interstate Compact on Low-Level Radioactive Waste Management. I urge your full support for this legislation. It has been agreed to by the states of Oregon, Washington, Hawaii, Idaho, Montana, and Utah. The measure establishes a framework by which problems associated with the storage and disposal of low-level radioactive waste materials can be resolved in this region.

We have accepted Congress' invitation in S. 2189, the Nuclear Waste Policy Act of 1980, to form a regional compact to address this issue. We believe that the compact equitably treats the interests of all the citizens of this region. The compact also acknowledges that states must cooperate to resolve problems in the disposition of other hazardous materials. In moving so quickly to reach agreement on a compact, the states of this region have effectively implemented Congress's call for state initiative and have provided an example that other states can follow.

Thank you for the opportunity to present this statement and for coming to our region to hear our views.

Sincerely,

VICTOR ATIYEH, *Governor.*

Senator SIMPSON. There will be two opportunities for comments from the audience. Anyone that wishes to step forward, wants an opportunity, 15 minutes will come at the conclusion of the panel, the second panel after we hear from Governor Spellman. There will be a 15-minute period there, and then at the conclusion of the proceedings at the end of the hearing. There will be a time limit of 5 minutes

to present testimony by each of the witnesses and 10 minutes of questions for each panel. We will try to diligently observe that.

How do you do. Nice to see you.

Congressman MORRISON. Nice to be here.

Senator SIMPSON. Slade, do you have any comment?

STATEMENT OF HON. SLADE GORTON, A U.S. SENATOR FROM THE STATE OF WASHINGTON

Senator GORTON. I'm delighted to welcome Senator Simpson to the State of Washington for this hearing, and to thank him for chairing this hearing on behalf of the U.S. Senate Judiciary Committee.

I am delighted also that Congressman Morrison is here to bring his unique perspective and competence to this very significant issue.

Of course, I too, want to thank Senator Thurmond who is the chairman of the Senate Judiciary Committee whose consent to holding this meeting in Seattle was, of course, essential. His support for the passage of legislation granting congressional approval to interstate low-level radioactive waste compacts is obviously crucial to its passage.

BACKGROUND OF S. 2829

On August 12 of this year, I introduced S. 2829, a bill granting the consent of Congress to the Northwest interstate compact on low-level radioactive waste management. That bill was assigned to the Judiciary Committee and is the subject of this hearing. Congress had, in 1980, passed the Low-Level Radioactive Waste Policy Act in which it declared as Federal policy: That each State be responsible for the disposal of low-level radioactive waste generated within its borders; that low-level radioactive waste can be most safely and efficiently managed in a regional basis; and that States be authorized to enter interstate compacts to provide for regional disposal facilities.

The Northwest interstate compact on low-level radioactive waste management was developed and ratified pursuant to the authority granted by that 1980 law. It is the compact of Washington, Oregon, Idaho, Montana, Utah, Hawaii, and Alaska. Wyoming is also eligible to participate.

The issue of radioactive waste disposal is significant for persons residing in Washington State because of the existence of a large low-level radioactive waste disposal facility at the Hanford Reservation near Richland.

Several years ago, the voters of the State of Washington passed initiative 383. The purposes of that initiative were to cause Federal-State cooperation in the siting of low-level radioactive waste repositories, considering the interests of those residing close to those repositories, to recognize the environmental and public health implications of radioactive waste disposal, and to address the radioactive waste transportation problem with regional responsibility for regionally generated radioactive waste.

Earlier this year, the ninth circuit court of appeals affirmed a U.S. district court decision that initiative 383 was unconstitutional because its exclusionary and regulatory provisions violated the supremacy and

commerce clauses of the U.S. Constitution. By reason of this ruling, prompt congressional consideration and enactment of S. 2829 is crucial to Washingtonians to insure that regional responsibility for regionally generated radioactive waste becomes a reality.

It is incumbent upon the Congress, however, in addition to giving this matter prompt consideration, to evaluate whether the regional interstate compacts which are developed across the nation create an integrated low-level radioactive waste program. The compacts need not be identical to accomplish this. Indeed all the compacts need not be before Congress in order to evaluate whether their combined effect is national in scope. But the compacts must operate in an integrated fashion and not be inconsistent in major interstate or interregion provisions. To evaluate whether this is the case, Congress should have at least several compacts before it prior to acting on any. It is my hope that the Northwest, Southeast, and Rocky Mountain compacts will be before Congress by spring of 1983. These three compacts would provide Congress with enough information about an integrated low-level radioactive waste management system to allow congressional consent for those compacts and provide guidance for congressional approval of those subsequently introduced.

Section 4(a)(2)(B) of the Low-Level Radioactive Waste Policy Act provides that interstate compacts "shall not take effect until Congress has by law consented to the compact." In order to insure that the various interstate compacts do create a sensible national system utilizing state and regional disposal programs, Congress may condition its consent to individual compacts by requiring modification of the compact's provisions. Because these conditions would be directed toward national integration of regional compacts, and be enacted pursuant to commerce clause authority, no subsequent State legislative action would, in my opinion, be necessary to cause them to be effective.

At our hearing this morning we have a number of State and Federal officials as well as members of the public who will provide testimony.

Senator Simpson has already indicated we do wish that testimony to be relatively brief, although written testimony will be included in the record absolutely in full. He also said this will not be limited to those names already on the program but we will have a chance for public input as well.

Thank you.

Senator SIMPSON. Thank you, Slade.

Congressman Morrison, do you have a brief statement you might wish to make? Congressman Morrison is from the Fourth District of the State of Washington.

STATEMENT OF HON. SID MORRISON, A U.S. REPRESENTATIVE FROM THE STATE OF WASHINGTON

Congressman MORRISON. Mr. Chairman, I wanted to express my appreciation for your being here and making this very timely, important issue possible. I'd also like to congratulate Senator Gorton for his leadership and sponsorship of Senator bill 2829. I am a cosponsor of the House version of the same measure. But once again, Mr. Chairman, the Senate is providing the leadership in this issue area.

I'm greatly appreciative of that. Included in my background is several years representing the State of Washington with the Western interstate nuclear compact, which was one of the organizations which led to the agreement on low-level radioactive waste. I'm just pleased that we have a very interesting list of witnesses that will be presenting the Western case to us, and obviously we have some conflicts and I'm delighted for this opportunity to be part of the team to help work it out.

Thank you for letting me sit here with you today.

Senator SIMPSON. Thank you for coming. We certainly appreciate it.

And now I would like to introduce the Governor who will make his remarks and statements and I recall meeting with him on various occasions in Washington. It's nice to have you here, Governor.

Governor John Spellman.

STATEMENT OF HON. JOHN SPELLMAN, GOVERNOR, STATE OF WASHINGTON

Governor SPELLMAN. Mr. Chairman, Senator Simpson, we're certainly glad to have you here. Senator Gorton, Senator Morrison, this is a matter of great concern to the State of Washington.

Our concern goes back several years, to the early 1960's, when the State of Washington leased 1,000 acres from the Federal Government for uses related to nuclear energy. In 1964, the State subleased 100 of those 1,000 acres to a private company to establish and operate a low-level radioactive waste disposal site. In that same year, the AEC issued a license for operation of the site.

We had some severe problems in 1979. Several shipments of leaking wastes and unsafe trucks arrived in the State. This caused considerable concern regarding health and safety problems. It highlighted the fact that our State, along with only two others, was shouldering the burden of handling all of this Nation's low-level radioactive wastes. For several years, there had been six sites available throughout the country. Three have been closed, and, for most of the last decade, three States have handled low-level waste disposal needs. The State of Nevada is currently attempting to close its facilitiy, which will add to our burden. During extended legislative debates and public discussion, the legislature and the people felt that such a burden on Washington was inappropriate. As a result, in November 1980 the initiative Senator Gorton referred to was adopted by an overwhelming majority. It proposed to stop the importation of out-of-State nonmedical wastes unless our State was part of an interstate compact.

REGIONAL COOPERATION OF GOVERNORS

About the same time, the Governors of the Western States got together and created a committee and began to work on the process of regional compacting. We were reinforced by the passage of the 1980 act of Congress. Our legislation wisely established a policy supporting the national policy that called for the State leadership in devising regional arrangements.

We launched into the Nation's first low-level compact during the spring and summer of 1981. It was adopted by the legislatures of Idaho and Washington in April and subsequently by Oregon and Utah, with Montana entering as well. Utah has reaffirmed its membership through legislative action, and Hawaii has also. I won't go through the history of that, but there has been action in all of the States except two at this point. And it is quite likely that Alaska and Wyoming will be acting on compact adoption in their next legislative sessions.

Under the provisions of the compact, each party State agrees to undertake certain responsibilities. The host State agrees to maintain its site and to operate it for the benefit of the compact members. The other States have agreed to respond to the regulatory needs that the host State enunciates to support a system that will better identify and track the wastes from their generation to their ultimate disposal.

In addition, Oregon and Idaho have agreed to maintain their existing sites for the disposal of nonnuclear hazardous wastes. Also, when the time arrives for establishing another site, all of the party States have agreed to operate in good faith to select such a site. In other words, we have developed an interstate agreement which is sensitive to the needs of the party States and which deals comprehensively with all aspects of the low-level radioactive waste issue.

Now there is dramatic evidence that a regional system is needed. Our site handles one-half of the Nation's low-level wastes—over 1,500,000 cubic feet of waste during 1981. The only other major operating site, located in South Carolina, essentially takes the other half. The wastes disposed of in Nevada have slowed to a trickle, and that State hopes to close its site permanently.

PAUCITY OF SITES DECRIED

The availability of only two sites for the Nation does not make me or the citizens of this State very happy. The more quickly we move toward regional systems, the better off we all will be. Our State now has 1,700 authorized users of our site, from 48 States. The other two States don't have any generators with site-use permits. A State-developed system of regional sites will provide greater cost stability, reduce transportation requirements, enhance safety, and provide greater equity among all States.

Mr. Chairman, there are several particular issues that have been raised. I would like to address those briefly.

First, with regard to Federal regulatory authority, our compact States are not attempting to thwart or to alter existing regulatory authority that is exercised by the United States, is Nuclear Regulatory Commission, its Department of Transportation, or any other Federal agency. Our goal has been to fashion a compact which will act in concert with existing statutes and regulations. We are encouraged by the positive attitude of NRC and the Department of Energy toward our compact. NRC has shown flexibility in developing a proposed agreement with party States that will allow compatible examination of NRC licensees so that compliance with compact requirements is achieved. Our view is that this compact will augment, not replace, necessary Federal oversight in appropriate areas.

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With regard to the date of exclusion, at the time the compact was adopted, it appeared that 2 years would be ample time to allow substantial progress in other regions. Unfortunately, in the months following progress in other regions was painfully slow. In recent months, as Senator Gorton has noted, there has been an acceleration of activity, and some of the regions are now moving quite rapidly. However, given the fact that congressional ratification may well not occur until close to the date specified by our compact, it will be difficult if not impossible to put in place a structure to deal with generators' disposal needs until more regional sites become operational. I feel that the date in the compact, even though it was achievable, given the circumstances at that time, now raise some legitimate questions regarding its date and how wastes would be handled if a deadline which is becoming increasingly tenuous were approved.

We, however, want to emphasize we have flexibility in the compact to deal with special circumstances where a generator would have no other feasible place to dispose of wastes. I am confident that specific arrangements could be made.

I have heard that there could be an attempt to have Congress move the date of authorized exclusion back from January 1986 to some later time. I oppose that move vigorously. There is simply no adequate rationale for supporting further delay in full implementation of compacts. The 1986 date should remain firm, and strong efforts must be made to assist other regions in compact development and approval.

In the event that there might be one or two areas that might not have sites available by the congressionally approved date of exclusion, satisfactory arrangements could still be made to insure the continuity of disposal practice and alternative sites until that particular region is fully operational. I suggest that a number of feasible options are available, including temporary storage at Federal facilities, on-site storage, and interregional agreements during that brief period of time.

CONCERNS REGARDING REGULATORY PROGRAM

With regard to regulatory practices, concerns have been expressed regarding the nature of the regulatory program contained in a Northwest compact. Essentially, the regulatory system is based upon current practices for disposal. Under the compact, party States will have certain additional responsibilities, and nonparty States, for the limited time that they would have continued access to the site, would have some additional responsibilities, too. Because the opportunity for use of our site by outside region generators decreases as time passes, the concerns expressed by a handful of generators are not really a matter of great import. Nothing in our compact was intended to prohibit the importation of wastes before a congressionally approved exclusion date. At the time of the development of our compact, however, our State negotiators recognized a difference between party States and nonparty States, and we believe that distinction is entirely appropriate; otherwise there would be no impetus for the other States to move toward regional action. Rather than discriminating the compact deals with equity for compact members. Its provisions do not prohibit; they only regulate.

I also want to emphasize that we have taken a cautious and careful approach to the development of implementing regulations during the

period of adoption, ratification, and full implementation. We have asked the compact committee to examine and comment on an informational draft of requirements. We have asked generators to do so, and for others to do so, too. We have not yet proceeded to the formal rulemaking stage, and I don't believe we will do so. Nor should we until we are certain that the regulations will be in compliance with both the compact and congressional intent.

We expect the Compact to be effective, reasonable, and comprehensive. It does contain adequate means of dealing with the low-level radioactive waste disposal problem.

Mr. Chairman, to conclude, I think we have attempted to identify the issues you have raised, but I want to leave one further thought with you. Never during the long debate on nuclear waste disposal that has occurred in this State has anyone suggested simply closing the Hanford site and just saying, "Let George do it," or in this case, "Let Nevada or South Carolina or some other State do it." Instead, we, all the people of our State, environmentalists and industry alike, have advocated developing a responsible regional approach to low-level nuclear waste disposal. To the extent we fail to achieve a ratified and fully operational compact, we may end up with our citizens some day saying, "Close it down. Why should we be the Nation's dumping ground? We tried to work with the other States and the Congress, and the door was slammed in our face." That need not and should not happen.

STATES RESPONDING TO CHALLENGE

The Northwest States have responded to the call of Congress for State leadership in the resolution of the national problem of dealing with low-level nuclear wastes. We are prepared to move forward in making our compact work. We will not be able to do it in isolation. The next logical and necessary step is for Congress to recognize our efforts and ratify the compact as expeditiously as possible. We pledge to work closely with other States, Federal agencies, Congress, generators, and others, so that the total program is ready for operation as soon as possible. Delay in ratification will not assist that effort. All of the common interests that we share will best be served by affirmative action by Congress.

Thank you.

Senator SIMPSON. Thank you very much, Governor. We have just a brief time for questioning.

Now article VI provides here that the language that, as to any eligible party, this compact shall become effective upon enactment into law by that party. Am I correct in assuming that no provisions in that compact would become effective prior to congressional consent or is the intent of the compact States that certain provisions might well take effect prior to that date?

Governor SPELLMAN. Well, I suppose I should defer to the Judiciary Committee on this point, even though I am a lawyer. In my opinion, there is an agreement between the States. It is not an interstate compact because it has not been approved by Congress yet, but certainly the States that entered into that with their legislative actions have an agreement under which they are operating during this period of time. But the interstate compact, as I would interpret it, does not

come into full effect until Congress adopts it, in consistency with whatever modifications Congress may have made in the adoption process.

Senator SIMPSON. From your testimony I gather that this State is proceeding with development of regulations for the implementation of that compact. I might ask, when do you think you will complete that effort and what steps may be taken to insure that those regulations will be in compliance with the Low-Level Waste Policy Act and have those regulations that are being developed, particularly those having to do with packaging or transportation, are they compatible with the NRC directive in that area and the Department of Transportation's comments and regulations in this area?

Governor SPELLMAN. I would first answer by saying that they are being prepared, of course. They are not in final form, and they are being prepared in that manner in order to have the input of the NRC and the Department of Transportation, and so forth. They will not be finalized until Congress has acted and until we know that the parameters within which we are working are consistent with Congress. I do know, however, that the staff of the regional committee and various Governors' staffs have been working closely with the DOT and NRC, and I believe there is great harmony. I would let those entities speak for themselves, however.

Senator SIMPSON. That's an interesting one because in the Nevada site the packaging, transportation really is what gives rise to the breakdown of Nevada wishing to cease participation.

Governor SPELLMAN. I think I indicated in testimony that we don't look at our proposed regulations as being in conflict but instead as augmenting the existing regulations; they would be worked out with the Federal agencies.

Senator SIMPSON. One final question from me and then Senator Gorton may have one.

The compact authorizes any party State within the region to conduct periodic unannounced inspections of the premises of low-level waste generators and the NRC has taken the position that in order for States to conduct on-site inspections of NRC licenses that each State must enter into "special agreements under the Atomic Energy Act authorizing those inspections and establishing these mutually agreeable changes." Do you agree with the NRC interpretation and would Washington and other compact States be prepared to enter into those types of agreements?

Governor SPELLMAN. In terms of the NRC licensees, of course, the Federal interests are paramount. However, I would, and I believe we would have to reach such an agreement with NRC. I would certainly be a strong advocate. I feel confident that the NRC should go along with such a proposal if several States think it might help them in doing a better job. That is something that would have to be negotiated with NRC.

Senator SIMPSON. Thank you very much.

Senator GORTON. Governor, I'm delighted that the State of Washington in the Northwest has provided the kind of leadership which is indicated by this compact, and of course pleased on your behalf to introduce the compact into the Senate. I am pleased with your personal

leadership in this respect. I have no questions, but I do wish to congratulate you for what I think has been a very, very responsible and very, very aggressive job in moving on this issue, which has great national interest and which has great interest within the State of Washington as well.

Senator SIMPSON. Thank you very much.

Congressman MORRISON. Time for one?

Senator SIMPSON. Go ahead.

Congressman MORRISON. I'm interested in what, you spent some time on the date of exclusion. Maybe a specific question as to where your input will be to the legislature. Senator Gorton's bill, which is a major document before us at this hearing does prescribe that we would approve the Western State compact before us contingent upon the acceptance of the 1986 date. You have indicated the flexibility of the management in operation of the compact but at no place did you say the Western States should change their date to conform with the 1986 request of the original congressional act.

Governor SPELLMAN. I think obviously we have a nostalgia in regard to 1986. A lot of water has gone under the bridge since that date was set. It doesn't look feasible with regard to the other regions of the United States. Senator Gorton's proposal is a reasonable one. What concerns me is talk about a further extension. That takes the pressure off the other regions to do their work. We out here in the Northwest have an agreement; we're going to be cooperating in that until Congress does act. We do want a Federal determination. I think this amendment made by Senator Gorton is about as long an extension as should exist with regard to the date of the implementation.

Senator SIMPSON. Thank you very much, Governor. Very kind of you to come. We appreciate it.

Governor SPELLMAN. Thank you.

Senator SIMPSON. Now we have a panel consisting of the attorney general, Hon. Kenneth Eikenberry and Hon. Al Williams, State senator of the State of Washington and Hon. Max Benitz, State senator of the State of Washington.

We would appreciate those gentlemen coming forward to participate in the panel.

I again emphasize if you can limit your remarks to 5 minutes we will have a question period of approximately 10 minutes. And out in Washington they give us a marvelous little device that has a little light, red, yellow, and green, with a detonator in it. We don't have it here. Anyway, it's a pleasure to have you and appreciate hearing your remarks. We might just go in that order, please. Mr. Eikenberry, Mr. Williams and Mr. Benitz.

STATEMENT OF KENNETH O. EIKENBERRY, ATTORNEY GENERAL; ACCOMPANIED BY AL WILLIAMS AND MAX BENITZ, SENATORS, STATE OF WASHINGTON

Mr. EIKENBERRY. Mr. Chairman, Senator Simpson, Senator Gorton, Representative Morrison, we do want to express appreciation for your having this hearing so we can provide comment to you on this very important matter. My purpose in being here this morning is to em-

phasize the belief that the people of the State of Washington and, I believe, most of its elected public officials believe that it's vital that the Northwest compact be approved at the earliest possible date. There may be some discussion as to what that date is but the earliest possible date, I think, is the important point.

I have submitted more detailed comments on this, but it's my intent this morning to summarize some of the legal considerations about the disposition of low-level radioactive waste.

I think I can safely stay within the time suggested by the chair without the detonator even being here.

First, as to initiative 383: by a vote of 3 to 1 the people of this State adopted 383 in an effort to control low-level radioactive waste. That measure, of course, was invalidated first by the district court and then the ninth circuit court of appeals. I made the decision not to seek further review of that measure for two reasons. First of all, it contains several legal flaws that we thought make a successful defense in the Supreme Court highly unlikely.

The second is the fact the Northwest States were way ahead of other regions in approving a compact and in further implementing congressional policy with regard to disposition of that material and taking responsibility for this kind of problem.

I should mention as an incidental matter that the proponents of the initiative were granted intervenor status by the circuit court and I understand they are still considering an appeal so there is a possibility of some further legal life for that measure.

Meanwhile, however, I will be submitting to the 1983 session of the Washington State Legislature an analysis of what occurred in that lawsuit and some proposals for the legislature to consider for possible adoption, which we think would avoid the legal flaws that were inherent in that initiative.

We think such a law would be desirable, especially in view of the fact that the Northwest compact was dated 1983 while Senate bill 2829 has an effective date of January 1, 1986.

AMENDMENT URGED

Another solution of this gap of 2½ years would be, of course, to amend the effective date in the Senate bill.

Frankly, I respectfully urge the committee to consider adoption of such an amendment. I believe it's urgent from a legal as well as a practical standpoint to move from the stage of contemplation to the point of action in implementing the congressional policy of regional compacts covering the Nation. In discussing this view, that initiatives 383 violates the supremacy clause and the commerce clause, the ninth circuit court of appeals noted in dicta that when the Congress confirmed a compact under the Congressional Policy Act, the confirmation would absolve the member States of supremacy clause violations. We are confident that view is correct. The court, however, also noted that confirmation of the compact would eliminate violation of the commerce clause. I am not as confident on this point when we remember that garbage being hauled from Philadelphia across the river into New Jersey has been elevated to the status of "goods in commerce" and it is possible that the plaintiff could successfully claim that a single com-

pact would violate the commerce clause. However, we are willing to undertake the risk of defending such movement and, therefore, would urge that you approve our compact at the earlier time.

As the Congress has already recognized in its Policy Act of 1980 that the way through the legal and practical maze is to cover the country with regional compacts, Washington and its Northwest neighbors are ready and we are asking the Congress to approve our efforts to implement the 1980 Policy Act and send a message to the rest of the country to get busy implementing their parts of the act as well.

Senator SIMPSON. Thank you. That's a very concise and powerful statement and I appreciate it.

Now, Mr. Williams.

Senator WILLIAMS. Senator Simpson, Senator Gorton, Congressman Morrison, thank you for an opportunity to testify. You have my statement and I'm going to just briefly touch on the first portions of it and then read the rest of it.

I think it's been quite thoroughly stated that the State of Washington and its citizens are concerned no differently than other citizens around this Nation about nuclear waste or radioactive waste being stored in our backyards and much prefer it to be someplace else.

NATIONAL RESPONSIBILITY EXISTS

However, I think we do recognize a national responsibility of all of us to deal with the problem and in fact find a place for it and find the proper mechanism for doing so. To that extent, I think Congress low-level radioactive waste policy has set in motion that kind of process. This process started back at the time President Carter established the State planning council, comprised of representatives from various States, to assist him in charting an appropriate course of action at that time. Following passage of the legislation, States have now tried to follow this congressional course.

In assessing Congress course of action, one should presume that it did not chart a course in which one State might be pitted against another either in efforts to become an eligible partner in a regional compact to meet the congressional deadline of January 1, 1986, or in efforts to block their ineligibility if they fail to oin before the deadline. Therefore, there remains great doubt in my mind at least, whether Congress will ratify the present regional compact efforts by the States.

It is my candid opinion that Congress will not ratify this compact because it fails to set a workable basic policy which requires or allows with certainty all States to participate in a regional waste disposal system, and elements of the Northwest regional compact are so different from other established interstate compact principles as as to throw this whole interstate compact concept into a chaotic patchwork.

This particular compact, in addition to the considerations mentioned so far, is flawed with several other defects which may cast such doubts by your colleagues as to make ratification all but impossible. The Northwest compact was the product of a Republican-controlled State legislative and executive branch which was determined to exclude minority input. As a result, most Democratic members opposed this compact in our State senate because in their view it lacked adequate protection for the citizens of this State. The compact in fact, is an

instrument completely dictated by the State of Idaho to the State of Washington through exclusive gubernatorial negotiation. That negotiation intentionally sealed off full participation and debate under the gubernatorial premise that because of Idaho's prior passage of the compact language, Washington, even as the host State for this waste, was bound to pass Idaho's language without amendment.

Efforts to achieve ratification of the Northwest interstate compact in its present form in all likelihood will falter because other affected States, either unable or unwilling to join a region, could successfully delay compact ratification, leaving Washington State in a holding pattern—unable to exclude out-of-region wastes and thereby not be able to force other regions to establish their own nearby disposal sites.

NEW NEGOTIATIVE PROCESS URGED

To overcome the problem I have described and to avoid congressional rejection of this and other compacts, I would urge Congress to devise a new Federal-State negotiative process that avoids jeopardizing viable regional compacts by leaving some States "out in the cold" so to speak.

To cure these defects, I think Congress, in assuming its central role, should amend the National Low-Level Radioactive Waste Policy Act to prevent any State being unable to join a nearby regional compact, and any State being able to jeopardize ratification of viable regional compacts elsewhere. And two, I think Congress should provide States with a regional compact model, thereby assisting them in achieving coordinated regional compacts.

In conclusion, should Congress fail to act promptly in bringing relief to the State of Washington, from the apparent pattern of being the continued waste disposal site far beyond 1986, the people of the State undoubtedly will seek alternatives to protect their health and welfare.

Senator SIMPSON. Thank you very much, Senator.

Senator Benitz.

Senator BENITZ. Thank you and welcome to our fine State of Washington Senator Simpson, and our fine Senator Gorton and Congressman Morrison, glad to have you home for a bit.

I am Senator Max Benitz. I represent the Eighth Legislative District of eastern Washington. That is the area in which Hanford and Tri-Cities and which is the subject of the discussion here. And simply to state that initiative 383 was a concern to the citizens about——

Senator SIMPSON. Maybe you can try that other microphone Senator.

Senator BENITZ. Initiative 383 was poorly drawn but it did suggest a concern on the part of the people of the State of Washington that we have been bearing the burden for the Nation in disposing of this low-level radioactive waste material. The Washington State Legislature responded to this sense of concern by leading the Nation in a more responsible approach. We joined other States of this region in passing the Northwest interstate compact on low-level radioactive waste management. This committee and your colleagues in the Congress can continue that sense of cooperation and responsible management of the Nation's low-level wastes by acting in a timely manner

to ratify the Northwest compact. In that way, the compact can be implemented, and responsible management of the disposal process can continue.

Less than 1 month ago, I chaired a subcommittee hearing on high-level radioactive waste in the Tri-Cities area of Washington State. At that hearing we received testimony from U.S. Department of Energy officials, the Governor's Office, State officials from the radioactive control agency—department of social and health services—local government officials and representatives of the Yakima Indian Nation. In addition, we received testimony from statewide organizations with an interest, local interested organizations and several interested citizens. Their testimony on this related topic was also overwhelmingly of a cooperative nature.

REGIONAL SYSTEM OF WASTE MANAGEMENT

This is not to say that we believe the State of Washington should be the only repository, or even one of two or three repositories for all of the Nation's low-level waste material. The compact makes clear that this country should move toward regional systems of waste management as the volumes of waste material rise. Other States should move expeditiously to establish their own compacts and follow the lead of the Northwest in establishing their own regional repositories.

When the legislature acted to pass the regional compact at the State level, we responded quickly—within one session—in a straightforward and cooperative manner because we saw the need for the compact. I would strongly commend that example to the Congress so that we can accomplish the goal of regional repositories in a manner which benefits the entire country. In that regard I support Senator Gorton's setting 1986 as the date by which nonmember States must establish their own regional repositories. I understand why the 1983 date chosen by the State legislatures cannot be accomplished. However, I believe 1986 allows enough time for other regions in the country to cooperate in this important system of regional repositories.

In working to extend this sense of cooperation among the States to agencies of the Federal Government, I believe the States of the Northwest compact are working diligently to establish some reasonable and responsible conditions to bring about responsible operation of the site on the Hanford Reservation. The regulations of the States and the compact committee do not supplant those of NRC and other Federal agencies but can be made compatible with them. Those agencies' perception of problems concerning packaging, inspection and transportation can be accommodated by your ratification of the bill before you, which grants consent to the compact of low-level radioactive waste management. I believe that everybody involved in dealing with the establishment of a management system believes that the Northwest region has the opportunity to act as a leader and as an example for other regions in the responsible management and disposal of low-level waste.

In closing, I would say that the States of the Northwest region have taken the lead in a responsible solution to the management and disposal of low-level waste—a solution which accommodates the rest of the

Nation until it has time to establish more regional repositories. Ratification by the Congress will accommodate the rest of the Nation and ease the minds of those Northwest residents who have worked so well together to accommodate other States and have accepted a heavy share of the waste disposal thus far. Thank you.

PARTISANSHIP DETECTED

Senator SIMPSON. Thank you very much Senator Benitz. I just have a few questions within the time.

I must—I'm curious; as Senator Williams was testifying, I detected a note of partisanship there with regard to the waste issue which somewhat surprised me because, as I say, I chair the Nuclear Regulation Subcommittee. The ranking minority member is Senator Gary Hart of Colorado and although we may have personal disagreements, we never allow party differences to enter into deliberations in regard to either high-level or low-level nuclear waste and I'm rather surprised at your commentary.

Senator WILLIAMS. Well, I'm really stating what I think is a situation that existed during that legislative session that we discussed and in fact passed the compact. We did have many offers—we wanted to participate in that process and we had offers of suggested amendments and so forth, including the 1983 date, for instance. We advised at that time very strongly that the 1983 date was a completely unworkable date for the compact. However, the legislature did not accept consideration really of that date. That and other things. And I'm, you know, I don't like to—this is something that should not necessarily be partisan, however once in awhile in the legislative process you get bound up in it. I wish it were not so.

We felt this and other changes in the compact needed due consideration and we don't think that happened.

Senator SIMPSON. Let me ask you both then since you both have worked very diligently in this area, both of you in the Senate actually involved in the development of the Northwest compact, if Congress were to condition its consent upon certain changes being made, let me ask you would it be necessary in your judgment for each State to then reratify the compact and, if so, how long would you anticipate that process might take?

Senator WILLIAMS. Well, that was the question that I had in my mind also when Senator Gorton mentioned that possibility. I suspect that it's going to depend on how much changes Congress makes in that compact. If the changes were in fact minor and in fact our compacts could stay in place as passed with those modifications, I suspect that we wouldn't necessarily need a new compact. However, if the changes are major in a sense, I would feel very uncomfortable then having that compact become the law for that region without having a chance to go back and take a look at that new language and have each State determine in fact it wants to accept that.

Senator BENITZ. If the U.S. Congress, and I hope it does, chooses to pass this legislation and the States, as the compact exists now, fall in those guidelines, I do not believe it would be necessary for the States to alter the action taken thus far and I would hope that would be the final solution.

INTENT OF ARTICLE 4 QUESTIONED

Senator SIMPSON. Let me ask a question of Attorney General Eikenberry and then defer to my good colleague here.

Section III of article 4, as I understand it, requires that each shipment of low-level waste originating outside of the compact region be accompanied by a certificate of compliance, before it may be accepted for disposal within the region. Some have argued, at least talked in the Senate, that because of the difficulty in—and in some cases almost legal impossibility for some States to meet that requirement, that it is actually a functional equivalent of a ban on all out-of-region wastes. In your mind is this provision a legitimate exercise of State authority, particularly in view of the recent ninth circuit decision on your initiative 383?

Mr. EIKENBERRY. Well, Mr. Chairman, we are satisfied with defending that by all means. And I could add also that everything as I understand it, that has been done in the meetings between representatives of the various States by way of preparing rules and operating regulations has been very carefully done so as not to contradict standards being set by the Federal Government and so at least in practice, I do not see this being a problem.

Senator SIMPSON. And that includes the area when we get into transportation and packaging and authorization of containers. Must those requirements, in your judgment, begin with NRC applicable regulations and DOT regulations?

Mr. EIKENBERRY. In particular with regard to those kinds of things, they will be in sync. Just to hint at a comment I made earlier, however, I think there may be some additional things that could be considered by the State of Washington before that material is actually placed in the ground, but that would be another matter.

Senator SIMPSON. One final question. We have this provision in section III which includes a provision that protects the rights of each party's State to impose "additional or more stringent standards" on waste generators and carriers than those imposed by the host State. Now, if I read that correctly, each State is then authorized to adopt a separate set of standards with no requirement that they conform to any other State's standards nor to the host State's standards. If that interpretation is correct, and if it is, does that not create the potential for State requirements that are going to be in direct conflict with each other?

Mr. EIKENBERRY. The point however, Mr. Chairman, this would leave the door open for States to set its standards with regard to operations in that State. And we think for its own generators of radioactive waste, if you will. So far as we are concerned at this point, the Congress had not preempted that area. It could, I suppose.

Senator SIMPSON. I thank you. I have some other questions, but because of the time, and if I'm going to require these things of you, I must require them of myself here. So I'll submit them in writing if I may.

Mr. Gorton.

Senator GORTON. Mr. Attorney General, I'm going to follow up on a question which Senator Simpson asked of the two State Senators relevant to your view on the impact of any congressional changes in

the compact from the way in which it was submitted to us. And we were more or less in the abstract when the two Senators answered that question, but I put one change in the bill I introduced, the date change. Now, let's posit that Congress did in fact pass the compact in exactly that form just with that simple 3-year date change. Would that require further State action before the compact would have any interstate compact validity?

Mr. EIKENBERRY. We think not. And, of course, with the preliminary caution on off-the-cuff opinions. Nevertheless, we have looked at this one to some extent and are confident that the earlier date inserted by the several States would be compatible with a later date being set and approving or ratifying legislation passed by the Congress. However, if the Congress were to insert other kinds of differences that would significantly change the understanding, the agreement the States had when they originally entered into the compact, then I think it may well be a case that the matter would have to go back to the individual legislatures for entering into this new agreement.

Senator GORTON. Can you give any general principle which would distinguish between the two sets or requirements?

Mr. EIKENBERRY. Not offhand, Senator Gorton, but it would be something that would be a significant relationship change.

Senator GORTON. Senator Williams, did you want to comment on that?

Senator WILLIAMS. Well, I can think of one particular example. As I understand the compact now allows the host State to set up a set of rules and regulations for transport, generation, so forth. However, if that power, for instance, were taken away from the host State and perhaps given to a committee of the compact or even allowed to be done by some one else, I suspect then we in the Washington State Legislature would want to relook at the taking away of that particular power.

Senator GORTON. Senator Williams, your comments here were as surprising to me as they were to Senator Simpson. I did not follow the passage of the bill through the legislature and didn't realize that it was accomplished on fairly close to a party vote. And I wonder if you would tell me what the relationship between that action is and your prophecy that we in Congress won't ratify the compact itself. And beyond that, what your recommendation is to us in Congress and especially to Congressman Morrison and myself. You well may be right. I think that it's possible that Congressmen from other States whose States don't seem about to enter into an interstate compact may wish to frustrate the adoption of this compact. But I guess my baseline question is, are we better off under those circumstances? Are you telling us that we should not ratify the compact? Do you think the State of Washington will have greater powers or lesser powers if we fail to ratify the compact?

Senator WILLIAMS. First, I think the partisanship that I expressed about the passage of the compact in the Washington State Legislature really has no bearing on what Congress reaction will be ultimately on this principle or this issue. I think it's in the best interest of the State of Washington to be able to—as soon as possible to be able to restrict

the importation of low-level radioactive waste into the State. My concern is that we're on a path which, even though everyone wants that termination to occur, that 1986 date, that because of certain things we are doing, we are going to automatically delay that date. Thus, it is not in the interest of the State of Washington to be on a process that delays it. And my concern is that if this region which is going to be taking at least 50 percent—now takes at least 50 percent of the low-level waste in this Nation—has the exclusionary power in 1986 but other States, particularly some high generator States, do not know where they're going to be in disposal of their waste that they will have the political power in Congress then to delay that 1986 date.

Senator GORTON. I understand that. But are you telling Congressman Morrison and me that we should vote against the compact and not try to pass it?

Senator WILLIAMS. No; I think Congress should with all possible haste help get a compact that does in fact work.

Senator GORTON. One of your proposed needed congressional actions, is that the National Waste Policy Act should be amended to prevent any State from being able to jeopardize ratification of viable regional compacts elsewhere. Well, since Congress has to ratify those compacts, how can we in Congress tell other Members of Congress that they can't interfere in that process?

Senator WILLIAMS. Basically I'm highlighting this political issue in that particular statement. I think we should recognize that until there's a degree of certainty for all the States in participating in some manner of regionalization so they won't have a problem down the road, until we recognize that the political process in Congress, I believe, will prevent ratification of this compact or that exclusionary date.

Senator GORTON. Certainly the idea that we should assure that every state can get itself into a compact is an excellent one. I think that's a fine suggestion. But I do take it that you feel at worst we should work on two tracks, that while we may need some amendment to the 1980 act itself, if we can succeed in getting this compact ratified as your Senators and Congressmen, we should go ahead and do so.

Senator WILLIAMS. I think so. I think we are in a process of, even though this particular compact may not be ratified in its present form, and even though I believe the Low-Level Radioactive Waste Act needs to be amended, we are in a process of education which maybe is necessary having the States go through this process. And I'm not objecting to the process. I'm just trying to say that we need to be aware of some things we need to do.

Senator GORTON. That's all my questions but maybe—does Senator Benitz have any comments?

Senator BENITZ. I think you've asked the correct questions and I'm pleased with the answers that we have here.

Senator GORTON. Thank you.

Senator SIMPSON. Thank you, Slade.

Representative Morrison, do you have any questions?

Representative MORRISON. Not really a question, but perhaps an observation, Mr. Chairman. I think that Senator Williams' concern that the Congress will never ratify one of these because of political

pressures on the various regions is more likely to happen the closer we get to the exclusionary date. The closer we get to cutting someone off, and I think on behalf of the State of Washington, and my constituents, I would love to see congressional action right away. The State of Washington has always led and here we are now ready to accept this responsibility to establish some realistic ground rules so I hope we could get some immediate action on Senator Gorton's proposal.

Senator GORTON. It's a concern——

Representative MORRISON. Well, I think you have to be careful by allowing the State next to the region to opt in. It's like the farmer who doesn't want to own much land, just the land next to his. Pretty soon you have opted in the entire Nation and the State of Washington is the only one with a site.

Senator WILLIAMS. That's a problem.

Senator SIMPSON. Then try the issue of a permanent geological repository for high-level waste. That's a delightful thing to participate in with each State wanting veto power. That's more money. Well, thank you very much. It's been helpful to have your testimony and I thank you for your attendance.

At this point we'll take a 15-minute period of public participation. There was a list back there. Maybe some person did not get an opportunity to see that, which was if you wished to present oral testimony you could sign up. One person has signed up but there are microphones back there I believe, yes, on either side of the room, one there and one there. If you would just come forward and give us your name. One person has submitted his name, Larry Pemberthy. If you would please present your remarks. And is there anyone else that would wish to speak at this point or at the end? We have two periods set aside for that, one period now and one at the end. Anyone else wishing to speak during this 15-minute period? We're not going to give you the full 15 minutes.

Mr. PEMBERTHY. Five will do.

Senator SIMPSON. Five will do. Thank you. If you would proceed.

STATEMENT OF LARRY PEMBERTHY, ENGINEER, SEATTLE

Mr. PEMBERTHY. Good morning Senator Simpson, Senator Gorton, Representative Morrison. I am Larry Pemberthy. I am in the engineering business here in Seattle and I have worked a great deal in the field of radioactivity. Now I am speaking here in favor of holding firm to the 1986 cutoff date for the shipping of any waste to the State of Washington. No State need be in trouble in disposing of its own nuclear wastes—I'm speaking now of low-level—except due to its own lethargy. There are at least five nature processes available for the incinerating of such wastes in the State where it is generated and solidifying that waste and storing it within the State where it is generated.

I am speaking this morning of one of the five processes with which I am most familiar. I have given you a diagram there which shows a furnace. The furnace does exist in engineering prototype. It's 3 feet in diameter and is a tunnel furnace 20 feet long. The furnace is heated electrically in the pool of molten glass in the bottom. The temperature is quite high, 2,200°. Waste, upon being introduced, see this is largely

a combustible waste, is incinerated immediately and burned completely through the stage of black ashes to white ash. White ashes are mineral, mostly calcium and silica, and necessary only to add sodium oxide, baking soda if you like, to make a stable glass.

In the folder which you have there is a sample of the glass which is a product of this, the glass carrying the radioactivity that was originally in the waste. This process is, as to quote somebody in the Department of Energy, a matter of overkill. That is, the total amount of activity involved is so low there is no need to go to the necessity of making it into glass. Glass is a very stable form, especially this kind of glass, which was developed first by the Canadians. The stability of this is so great that all you need to do is cast the glass into drums and put the drums into concrete warehouses in the State where waste is generated and you are finished with it, well the door is shut when a particular warehouse is sold.

Now I anticipate the possibility that some States may not be able to enter into a compact, and that would be California for example. There is no State adjacent to California that is likely to undertake the burden of taking all of California's waste because they are a large generator of waste. They don't need a compact. Let them take any of the handful of processes available and take care of their own.

Then the issues before this committee, while there is no objection to them, certainly they are not technically nor critically necessary. The best part of this whole process for each State to take care of its own is it is likely to be considerably cheaper. Remember now the regulations on packaging of waste for interstate transport are yeah thick and then the cost, the transportation regulations equally thick and then the cost of burial here in the State of Washington is going up 300 percent just a few months ago.

What I'm saying, this process, that each State should take care of its own, it's a cheaper way of dealing with the whole problem. Thank you.

Senator SIMPSON. Thank you very much. Your testimony is very helpful and I thank you for submitting it to this committee.

Senator GORTON. Mr. Pemberthy, is this system which you have outlined to us in use at anyplace at this time?

Mr. PEMBERTHY. It's in testing work at the Department of Energy which is located in Ohio.

Senator GORTON. How close is it to practical feasibility for general use?

Mr. PEMBERTHY. It is practical now. We have a full-scale demonstrating engineering prototype in our plant down in the south part of Seattle right now.

Senator GORTON. Could it receive whatever licenses are necessary for use or is that wait for the testing that's going on by the Department of Energy?

Mr. PEMBERTHY. You have touched upon the vulnerability of any process and that is to get through the NRC. It's a tremendous burden. We have been talking to the utilities, Commonwealth Edison, TVA, and they tell us if we have a firm contract in hand it will take only 6 or 8 months maybe to get a review, but if it's only a topical report

in order to be able to do business with these people, they are talking 2, 3, years, or, or so. That's about how big the problem is. It's an insurmountable obstacle as for as we are concerned.

Senator GORTON. Thank you.

Congressman MORRISON. Mr. Pemberthy, is the radioactivity concentrated as a result of this process?

Mr. PEMBERTHY. No; let me speak in a close approximation. Cesium and strontium are the two radioactive elements of greatest concern, both in high-level waste and low-level waste, because of the half-life and their activity and reactivity with people. So that these elements are dispersed atom by atom within the structure of the glass, completely separated.

Senator SIMPSON. I thank you very much. Certainly glassification and its use is going to be important and is important in nuclear waste disposal. I appreciate your concept of that.

All right. The next panel is G. Wayne Kerr, Director of the Office of State Programs for NRC; Michael J. Lawrence, Deputy Director of Terminal Waste Disposal and Remedial Action of the Office of Nuclear Energy, Department of Energy; and Douglas Anderson, Attorney-Adviser of the Office of Chief Counsel, Research and Special Programs Administration, the Department of Transportation.

Good to have you gentlemen here this morning. Thank you for your appearance. If you will proceed from the agenda, Mr. Kerr, Mr. Lawrence, and Mr. Anderson, I'd appreciate that very much with the knowledge at this time—limitation that we have.

STATEMENT OF G. WAYNE KERR, DIRECTOR, OFFICE OF STATE PROGRAMS, NUCLEAR REGULATORY COMMISSION; MICHAEL J. LAWRENCE, DEPUTY DIRECTOR OF TERMINAL WASTE DISPOSAL AND REMEDIAL ACTION, OFFICE OF NUCLEAR ENERGY, DEPARTMENT OF ENERGY; AND DOUGLAS ANDERSON, ATTORNEY-ADVISER, OFFICE OF CHIEF COUNSEL, RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION, DEPARTMENT OF TRANSPORTATION

Mr. KERR. Mr. Chairman, Senator Gorton, Mr. Morrison, I am pleased to be here today to testify on those items requested by Senator Thurmond in his letter of invitation, on the NRC's role in reviewing interstate compacts, and on specific comments on the Northwest compact. With your permission, I'd like my full statement entered in the record.

Senator SIMPSON. Without objection.

Mr. KERR. With respect to the question on the accepted definition of low-level radioactive waste we believe that the definition in the Low-Level Radioactive Waste Policy Act is the most accepted nationwide, and is followed in our new rule on waste burial, part 61. We believe that the definition of low-level waste in all the compacts should be consistent to permit the total system to work most effectively. This can be assured through the adherence by all compacts to the one found in the act.

EFFECT OF COMPACTS

In my later comments on the Northwest compact, I will cover the effect on States outside the region.

Our view on the effect of the compacts on the current pattern of transportation of low-level radioactive waste when regional disposal sites start to operate is that there should be an improvement, since transportation distances should shorten from the present situation where all waste must go to two sites in the Western States and one site in the Southeast.

We would expect that the Northwest and other compacts can be made consistent with Federal regulation of low-level radioactive waste in the areas of packaging, transportation, and financial arrangements for closure and post-closure care.

The Northwest region was quick to respond to the major challenges of the Low-Level Radioactive Waste Policy Act, and was the first in the country to be enacted by the required number of qualifying States.

A number of other compacts have reached the point where the negotiators have approved final language and submittal to their respective legislatures is anticipated this winter. This list includes the Rocky Mountain, Central, Midwest, Southeast, and mid-Atlantic compacts.

We hope that the NRC's comments will contribute to a long-term, efficient, and effective institutional framework for dealing with the problem.

Upon request, we provided written comments to each of the compact groups on their draft compacts. Our specific comments on the Northwest compact are attached to my statement, but there are basically five issues we would like to address.

The effective date of July 1, 1983, for exclusion of out-of-origin wastes is inconsistent with the Low-Level Radioactive Waste Policy Act. Second, the definition of low-level wastes as it appears in the compact is inconsistent with that in the Low-Level Radioactive Waste Policy Act. Third, our comments have been directed to discriminatory provisions in the compact, which we believe to be an impediment to interstate commerce, in regard to waste generated outside the region prior to January 1986. These provisions include 100 percent inspection of all shipments and a requirement for a binding liability agreement from each State outside the compact from which the material is shipped. Because S. 2829 only addresses the effective date for exclusion of our-of-region wastes, this disparity remains as a concern to us for the period from the time of congressional approval until January 1, 1986.

Fourth, we have proposed that States can enter into an agreement with NRC pursuant to section 274i of the Atomic Energy Act of 1954, as amended, to provide for onsite inspection of certain NRC licensees.

CONCERN OVER LANGUAGE

Fifth, we are concerned that language such as found in articles III and IV(3)C of the Northwest Compact may appear to authorize conformance to host State regulations and requirements even if inconsistent with NRC or Department of Transportation regulations on

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packaging and transportation. Language on adherence to packaging and transportation requirements and regulations of the host State could affect States and licensees both within and outside of the region and conflict with the authority of the NRC and DOT.

Finally, we raised the issue of broad management function in several compacts because of the interlocking definitions in the compacts and functions assigned to compact commissions which appeared to give them aspects of regional health and safety regulatory authorities. In our view, this matter can be addressed on one of three ways: specific language in each compact which addresses the matter; specific language in the bill providing congressional consent; or an appropriate legislative record on the matter including written statements from each compact group clarifying their intent.

In summary, we believe that it is possible for compacts covering all regions of the country to be in place by January 1, 1986. We hope that our role in this process will assist the States in resolving this important matter for disposal of low-level radioactive waste.

Thank you.

Senator SIMPSON. Thank you very much, Mr. Kerr.

Mr. Lawrence, if you please.

Mr. LAWRENCE. Thank you very much Senator Simpson. The Department of Energy is pleased to be here and have an opportunity to comment on the Northwest compact. DOE fully supports the policy embodied in the Low-Level Radioactive Waste Policy Act of 1980 as passed by Congress and believes that the Northwest States are to be commended by their having drafted and finalized the first such interstate compact to come before the Congress for ratification.

Turning to the questions which were raised in a letter to the Department, the definition of low-level waste as set forth in the Low-Level Radioactive Waste Policy Act, is consistent and held by both DOE and NRC. As NRC has pointed out however, this is not consistent with the definition the Northwest has used in their compact.

I would also like to point out that recently NRC, EPA, and DOE have adopted a level of 100 nanocuries per gram of transuranic waste as being the threshold level for disposal of either transuranic or low-level waste. This level is inconsistent with the level of 10 nanocuries as set forth in the Northwest compact. We believe this latter figure should be adjusted to 100 nanocuries per gram.

We also believe that early congressional consideration and approval of the Northwest compact would stimulate other States outside the region to move quickly toward establishment of their compacts.

EFFECT ON TRANSPORTATION

With respect to the effect of the regional compacts on transportation, the Department of Energy has conducted an analysis of transportation in a report which was recently prepared and submitted for the record. Based on our evaluation, we find that regional sites for low-level waste disposal would result in about a 50-percent reduction in the distances, and therefore the cost and risk associated with the transportation of radioactive low-level waste would be reduced.

Turning now to duplication of Federal regulations, since the Department of Energy regulates its own low-level waste and the Department of Transportation and NRC are responsible for other commercial generators, I would defer to them as to the effect of the compact on Federal regulations.

There are some issues of specific concern to DOE with respect to the Northwest compact. As previously mentioned, we believe that the threshold level for transuranic waste needs to be addressed and should be changed to reflect the new standard. Also, the Low-Level Radioactive Waste Policy Act excludes certain Federal facilities from the provisions of the State compacts. Although the compact which the Northwest has adopted excludes Federal waste facilities from the definition and purview of the compact, Federal generators are not given clear exemption and we believe this should be rectified in order to be consistent with the Law-Level Radioactive Waste Policy Act.

DEPARTMENT'S SUGGESTIONS FOR IMPROVEMENT

We have submitted in written testimony suggested language which would allow the compact to be more consistent in that regard.

Article III of the proposed Northwest compact also requires periodic unannounced inspections of the generators by the State in which they are located. Since the Department of Defense has a number of facilities which use commercial low-level waste burial but which cannot, for obvious reasons, be open to anyone for unannounced visits, we believe that that compact should recognize this point. Exclusion of Federal generators, according to the language included in my testimony, would, in my view, take care of it.

With the exception of these points, we believe that the Northwest compact will enhance the enforcement of Federal regulations and we support it.

In summary, the Department supports the spirit and substance of the Low-Level Radioactive Waste Policy Act. We believe that early congressional consideration and approval of compacts, as they are introduced, will emphasize congressional commitment to a regional system of disposal facilities managed by the States. We applaud the Northwest region and support them in their efforts to organize and implement their compact.

Senator SIMPSON. Thank you very much.

Mr. Anderson please.

Mr. ANDERSON. Mr. Chairman, I am pleased to appear today to present the views of the Department of Transportation regarding the Northwest compact. At the outset, I would like to provide a brief general description of the Department's program and its relationship with State and local laws. The Hazardous Materials Transportation Act, enacted in 1975 provides broad general authority to the Department to issue regulations dealing with all aspects of the transportation of hazardous materials, including packaging, shipping papers, marking and labeling of packages, placarding of vehicles, and handling of materials. We, in close coordination with the Nuclear Regulatory Commission, have issued regulations comprehensively covering radioactive materials, including low-level waste.

ADVISORY ADMINISTRATIVE PROCEDURE ESTABLISHED

Section 112(a) of the HMTA provides that State and local laws that are inconsistent with the Federal requirements are preempted. In order to assist in the interpretation and application of that provision,

the Materials Transportation Bureau, which is the element of the Department of Transportation that administers this law, has established an advisory administrative procedure for issuing inconsistency rulings.

In issuing these rulings, we look primarily to two judicially developed tests. One, known as the dual compliance test, is whether it's possible to comply with both the State and Federal law; the second and more important, known as the obstacle test, is whether the State or local law presents an obstacle to the accomplishment of the purposes of the Federal requirements.

In looking at purposes of the HMTA, we focus primarily on the overriding purpose of enhancing overall public safety so that if a State law has an effect of reducing overall safety, it would be inconsistent. The second purpose we look at is the specific purpose of section 112, the preemption provision, which was to promote the adoption nationwide of a uniform set of transportation standards for hazardous materials.

With regard to the Northwest compact, there are three aspects of the compact that cause us some concern. The compact itself does not establish any inconsistent requirements, but as implemented by the compact States, inconsistent requirements may come about.

First of all, with regard to packaging standards, you've heard before that there are provisions in the compact that require the compact States to authorize containers and to prohibit use of other containers, and the compact explicitly does not preclude the compact States from adopting additional or more stringent requirements. DOT has taken the position in its inconsistentcy ruling that its packaging standards are exclusive in transportation.

RATIONALE FOR DECISION

The rationale for that decision is that to permit States and localities to adopt differing standards would possibly result in the adoption of incompatible standards, which would require repackaging in transit, which of course would not be conducive to safe transportation.

This potential of the compact could be eliminated by the inclusion of a limitation phrase in the authorization provision such as "to the extent authorized by Federal law."

Second, article IV of the compact as has been discussed, requires that nonparty States sending materials into the compact region issue certificates that would accompany the shipment at the disposal facility. DOT has also taken the position that its shipping paper requirements are exclusive for transportation. The rationale for that decision is that the primary purpose of shipping papers is to alert people, particularly emergency response personnel, to the hazards of the material being transported so that they may respond appropriately in the event of an accident. We concluded that additional paperwork, or additional shipping paper information, may have the affect of causing confusion at an accident scene and thereby reducing safety. We are concerned, therefore, that the certificate requirement may be applied in transportation, and that would be inconsistent. If, however, the certificate is required only at the disposal facility, that would be

outside of the scope of the Hazardous Materials Transportation Act and therefore, not inconsistent with it.

Finally, in relation to article IV, the certificate requirements would mandate an inspection by the nonparty State of origin. While we have a general policy that is strongly in support of State adoption and enforcement of regulations that are consistent with the Federal requirements, we are concerned with mandatory inspection requirements in that they may result in unnecessary delay of these shipments. While that's really a function of the nonparty States' implementation of the requirement, we would caution the party States to assure that nonparty States not impose unnecessary delay on transportation.

As I mentioned, the primary problems that we would have with the Northwest compact are not in the compact itself but in the way in which it may be implemented. Other compacts contain provisions that reduce substantially the likelihood of inconsistencies developing. These disclaimer provisions state that nothing in the compact shall be construed to abrogate or limit the applicability of any Federal law, and we would encourage the Congress to adopt a similar provision as part of the Northwest compact.

Finally, with regard to the effects on transportation, we would concur with the opinion of the other witnesses that the overall effect would be a substantial reduction in transportation because of the reduction in the distance between points of generation and points of disposal. That can only lead to an improvement in overall public safety since one of the primary factors in transportation risk is distance traveled.

So we strongly encourage the States to develop the compacts and we look forward to working with them in their implementation.

Senator SIMPSON. Thank you very much.

Let me ask a few questions first of Mr. Kerr. You note in your testimony that the definition of low-level waste that appears in the compact is inconsistent with the definition in the Low-Level Waste Policy Act. Just a bit more of a technical nature, could you be a bit more specific on the definition difference and what you see as a potential problem that those differences pose?

Mr. KERR. Yes, two I think. One is because of the way they have defined low-level waste as meaning nuclides emitting primarily beta or gamma radiation. There are licensees that use source material, uranium and so on in research projects, universities, industry. Activities like that which would appear to be prohibited them from sending their waste to the disposal site. That's one.

The other is transuranic waste which Mr. Lawrence spoke about. We believe that a numerical limit on the transuranics should not be put in the legislation; that it's more properly handled through the regulations and that is what NRC has done in our recently passed part 61. By the way, part 61 has two units, 10 nanocuries per gram for what we call class A waste which has some modest requirements on it, class C waste can go to 100 nanocuries per gram with additional containment, stability, and depth of burial requirements on it.

Senator SIMPSON. Just for the purpose of this field hearing, would you very briefly describe nanocuries and transuranic waste, just in the very briefest form?

Mr. KERR. Transuranic wastes are those isotopes whose atomic numbers are above uranium in the periodic chart of the elements, so it's like americium and plutonium. A nanocurie is a very small number which is 10 to −9 curies, or a decimal point followed by 8 zeroes and a one with a curie being the standard unit of radioactivity. So it is a very small amount, but because of the high toxicity of transuranics, we must talk in lower numbers.

Senator SIMPSON. The NRC has recently promulgated requirements for licensing of near surface low-level waste disposal facilities. In addition, the NRC is responsible for the regulation under part 71 of certain aspects of transportation of those wastes. What authority does an agreement State, under current law, have to deviate from those Federal requirements, specifically I would wonder what area would an agreement State have authority to impose requirements in addition to or more stringent than those of the NRC?

Mr. KERR. In terms of part 61, Senator, we work very hard with the agreement State to try to come up with as compatible a set of regulations as possible. We have met with all three of the waste burial States to discuss with them how they might implement part 61 and we expect certain aspects of part 61 to be matters of compatibility. We expect to see a very high degree of uniformity. Now as to the question of whether an agreement State can impose more stringent requirements at a burial site, they can and there are situations where this occurs. One in particular relates to DOT. For example, liquids can be shipped very properly under DOT regulations but part 61 has a waste solidification requirement so that the quantity of liquids for burial is very small and therefore, the burial site operators of the agreement States have laid on additional requirements for solidification which indirectly affects the waste form shipped.

There have been others, like South Carolina which has never allowed plutonium to be buried at their site. So there are areas where they can have additional restrictions.

Senator SIMPSON. Let me ask then, Mr. Lawrence a question and a final question for Mr. Anderson.

One of the issues you raised in your testimony, Mr. Lawrence, concerns the 10 nanocuries definition in the compact and the potential conflict just discussed with the nanocurie definition and the transuranic waste. Does that difference of the two definitions create a potential for a category of transuranic waste between 10 and 100 nanocuries that might not be disposed of in the region facilities and would therefore have to go to some other regional site?

Mr. LAWRENCE. That's correct Senator. We are afraid that the waste between 10 and 100 nanocuries, if excluded from this burial site and all other commercial burial sites would have to be stored until a new disposal site were available for it. This should be rectified.

Senator SIMPSON. What progress is the Department of Energy making in this area of low-level waste incineration, reduction at the present moment?

Mr. LAWRENCE. The low-level waste management program has several incineration projects in various stages of development. With program support an incinerator for medical waste has been installed and tested at the University of Maryland Hospital in Baltimore. Emission

testing has been completed and the university is currently awaiting licensure by the State of Maryland.

As Mr. Pemberthy noted, one of his glass furnace incinerators is undergoing tests by the Department.

To date, only tests with nonradioactive waste have been conducted. While the concept of glass furnace incineration has been proven, several practical engineering problems remain to be solved for its use with radioactive material.

The Department has also tested a controlled air incinerator to burn power reactor waste. Because of satisfactory results from these tests, the Department is supporting the licensing of an incinerator at a commercial power reactor. DOE support is being provided to develop the required documentation to support a license submittal to the Nuclear Regulatory Commission. This is a project funded jointly by the Department and industry.

There are a number of other technologies for reducing the overall quantity of low-level waste through incineration. I have only discussed three, but there are several others. We believe that the rising costs of low-level waste disposal will force many generators to look more and more to various means of reducing their costs for low-level waste disposal. Basically our program is aimed at assisting industry in undertaking the proof of concept demonstration of such technologies. Support is also being provided to establish the necessary institutional framework to readily utilize this technology. Our funds and efforts are therefore split between technical and institutional support. This is being accomplished by working with the States in the establishment of a compact.

Senator SIMPSON. Mr. Anderson, finally, your testimony indicates that any State or local requirement that is "inconsistent with DOT transportation regulations is preempted by the Federal regulations and therefore impermissible." Are there areas in the transportation field such as enforcement of DOT regulations where the States have a legitimate interest where the interest could be pursued in tandem and in concert with DOT regulations?

Mr. ANDERSON. Yes, Senator, and in fact, DOT is currently working very closely with the States in developing programs for the improvement of their enforcement capabilities. We have, I believe the number is 16 States, where we have established contractual arrangements, and in fact Washington State was the first such State, to assist them in the development of their own enforcement capabilities.

A part of those contracts require the States to adopt the Federal regulations. Governor Spellman referred to transportation safety problems existing out here several years ago. These problems were not a result of the standards themselves, but of failure to comply with the standards. To the extent that we can encourage the States to assure that carriers in their States are complying with Federal standards, we can enhance the public safety.

Senator SIMPSON. One final question. I'm curious; you noted in your testimony that inspection of low-level waste shipments by nonparty States may result in unnecessary delay and therefore increase the public exposure from those shipments. Is your reason for that conclusion that nonparty State inspections would increase the number of

total inspections or is there something different about a nonparty State inspection that results in some greater amount of time or care being taken?

Mr. ANDERSON. Our concern is not with whether the State performing inspections is a party State or a nonparty State, it's with the logistics of performing that mandatory inspection. For example, there has been a law passed in one State that requires, in order to accomplish the mandatory inspection, notification to the State after a shipment has been loaded and then transportation by the State official to the generation site and inspection before a shipment can be moved. That may result in several hours or even days delay in transportation.

There are other forms that such inspections could take that would not cause such delay, such as designating a port of entry or port of exit as the inspection point that the carrier could merely stop at.

Senator SIMPSON. I thank you.

Senator GORTON. Mr. Lawrence, how long is it likely to be before Mr. Pemberthy's or Baltimore Hospital's experimentaal techniques will be licensed for general use or any other similar techniques for disposal or compaction?

Mr. LAWRENCE. Well, Senator, I can't say how long it will take to license either incinerator. The development program for Mr. Pemberthy's incinerator only includes engineering design and testing. Phase one of that test is about completed. Some engineering problems with meeting EPA standards have been uncovered and are yet to be resolved.

Basically, our philosophy is for DOE to fund technology development to a point of technical operability and to transfer this technology to the marketplace. Economics and other market forces would then decide whether industry pursues licensing and if it would be applied in general practice.

There are a number of systems already in use for compaction and under development for various other forms of treatment of low-level waste.

Senator GORTON. Which are licensable now?

Mr. LAWRENCE. Compaction, primarily, but also other technologies that are considered good management practice.

Senator GORTON. Perhaps Mr. Kerr.

Mr. KERR. I would not like to comment on how long that particular one might take, but let me point out——

Senator GORTON. In general terms.

Mr. KERR. There are certain licensees approved today to incinerate radioactive material. One thing you have to remember is that if the radioactive materials are volatile and go up the stack, you have to consider that. It's not a matter that everything is going to remain in a small package. I know one institution, happens to be in an agreement State, a medical institution, has not sent any wastes off site to be buried since the 1979 crisis. They looked at things and decided they could store the wastes for a while, hold them for decay, and incinerate some, so they don't send anything off site anymore. So there are some of these methods that are already approved in agreement States and by NRC.

Senator GORTON. In more general terms, I thank all three of you for your compliments on this compact and the bill although after

your comments were over I wasn't sure what was left of it. Pretty clearly it would be the view of the previous witnesses that changes sufficient to satisfy the concerns of those expressed here would require going through the State process again and that compact would not be what they have already entered into.

In that respect, however, how closely are you working with additional regional groupings of States as they work toward their compacts? Do you believe that the next sets which are likely to be adopted are going to come closer to qualifying for approval of each of your departments?

Mr. LAWRENCE. Senator, we are working with essentially all of the compacts or individual States in this area. I would say, although several concerns that have been raised with the Northwest compact have been taken care of, we aren't universally in agreement with everything they have in their compact. All of the compacts have varying degrees of acceptability. We don't view the issues we raised as major, but rather, inconsistencies that have arisen since the time the compact was first developed. In the passage of that time changes have taken place which require the compacts to be brought back up to date.

Mr. KERR. I think I would comment maybe on two in particular. The Southeast compact, you may know, got quite aways along and with five States passing identical versions, and the State of South Carolina passed a different version. They met and decided to make changes on their own. One of the things that we have had concerns with, management versus disposal, which I think too much has been made of in the process because we think it's a solvable problem.

I think the Southeast is going to resolve that. I have received letters now from the Rocky Mountain and Central compacts expressing their intent was not to set up duplicate health and safety regulatory schemes, which was our concern. We work with all of them in terms of responding to their requests for comments and Central recently invited me to a meeting which resulted in a letter telling me that was not their intent, to duplicate health and safety regulatory schemes

Senator GORTON. Thank you.

Senator SIMPSON. Do you have any questions?

Congressman MORRISON. No, thank you, Mr. Chairman.

Senator SIMPSON. Thank you very much.

[The prepared statement of Mr. Lawrence follows:]

PREPARED STATEMENT OF MICHAEL J. LAWRENCE

Mr. Chairman and Members of the Committee: I am pleased to respond to your invitation to the Department of Energy (DOE) to appear before you regarding the Northwest Interstate Compact on Low Level Radioactive Waste Management and specifically Senate Bill 2829 to grant the consent of Congress to the Compact. Dr. George Levin, the Low-Level Waste Program Manager at EG&G Idaho, Inc., the prime contractor for the Department's Low-Level Waste Program, and Mr. Edward Jennrich of his staff are accompanying me. In my testimony today, I shall discuss the specific issues of Committee concern that were transmitted in your letter of invitation.

The Department of Energy supports the policy embodied in the Low-Level Radioactive Waste Policy Act (P.L. 96-573). That law established as Federal policy that each State is responsible for assuring the availability of capacity for the disposal of low-level radioactive waste (LLW) generated within its borders, except for waste generated as a result of certain Federal activities. That statute also encourages the establishment of a regional approach to LLW management.

The Northwestern states are to be commended for having drafted and finalized the first interstate compact for the regional management of LLW. The member states have demonstrated a commitment to fullfilling their responsibilities for low-level waste management and disposal.

Turning now to the Committee's points of concern, the LLW Policy Act defines LLW in Section 2.(2) as that radioactive waste not classified as high-level radioactive waste (HLW), transuranic waste (TRU), spent nuclear fuel, or byproduct material as defined in section 11e.(2) of the Atomic Energy Act of 1954.

The Nuclear Regulatory Commission (NRC) is finalizing 10 CFR 61, which provides the licensing procedures, performance objectives, and technical requirements for the near surface land disposal of LLW. In 10 CFR 61, NRC uses the same definition for LLW as the LLW Policy Act and allows for certain waste containing up to 100 nCi/g of transuranic activity to be disposed as

Class-C (LLW) waste in a near surface disposal facility. This definition is generally accepted throughout the nuclear community.

For purposes of determining appropriate disposal methods for LLW generated in our own operations, DOE currently defines LLW as any radioactive waste that exceeds applicable release limits as defined by DOE Order 5480.1, and that is not defined as HLW, TRU, spent nuclear fuel, or byproduct material. This is consistent with the intention of P.L. 96-573. DOE manages its LLW as a distinct category separate from HLW, TRU, spent fuel, or byproduct material. We use these categories to manage waste according to its characteristics and hazards. DOE used 10 nCi/g of TRU-containing waste as a threshold for storage of LLW. However, on September 30, 1982, we issued DOE Order 5820.1 that defines TRU for DOE disposal as material with contamination limits greater than 100 nCi/g. This threshold of 100 nCi/g is consistent with the limit being considered by EPA and NRC for distinguishing between allowable material for near surface dusposal and more restricted disposal. TRU-containing waste below this threshold value would be managed as low-level waste. Article II (2) of the Compact uses the 10 nCi/g threshold and is therefore inconsistent with the DOE, EPA, and NRC proposed threshold.

The term "low-level waste" has served as a general term for a very wide range of radioactive wastes. All industries; hospitals; medical, educational, or research institutions; private or government laboratories; or facilities encompassing nuclear fuel cycle (e.g., nuclear powerplants, fuel fabrication plants) utilizing radioactive material as a part of their normal operational activities generate low-level radioactive waste just as they generate other types of waste that require special handling. LLW consists of radioactive materials and other materials that have been in contact with radioactive material and contain or are suspected of containing some of that radioactive material.

Presently, there are more than 20,000 companies, institutions, laboratories, and government facilities licensed by NRC or Agreement States who use radioactive materials as a normal part of day-to-day activities. Because of the wide range in the types of activities and applications of radioactive material,

LLW is generated in many waste types, forms, and amounts. It ranges from trash that is suspected of containing radioactive material to activated structural components from nuclear powerplants. The generated waste may be solid, liquid, or gaseous. It may consist of a wide range of chemical forms and may be shipped in a number of different types of packages.

Now let me turn to the effects of Congressional ratification of the compact on states outside the Northwest region. The Northwest Compact, as enacted by the eligible states, sets an exclusion date of July 1, 1983. S. 2829 in Section 3.(a) changes that date to January 1, 1986, which is consistent with the Low-Level Waste Policy Act. We support this change to 1986.

We consider that the effect of Congressional approval of the Northwest Compact will stimulate states outside this region to increase their regional activities in developing their low-level waste management system. Although some regions may not have new sites by 1986, interim storage or disposal agreements by the states and/or industry would prevent any health hazards--although it may result in an economic burden to some generators. We are aware that in Article V of the Compact, the Northwest Low-Level Waste Compact Committee is empowered to negotiate arrangements with nonparty states, provinces, individual generators or regional compact entities for access to the disposal facility after the exclusion date on conditions that the Committee, along with the consent of the host state, may deem appropriate. We believe that such a provision is desirable to provide some flexibility for the national system, especially in its early phases of operation. Therefore, we encourage Congressional passage of the Northwest Compact at an early date with some recommended modifications, that I will discuss later.

With respect to the effect of regional compacts on the current pattern of transportation of LLW, the Department, in the report required by the LLW Policy Act, DOE-NE-0015 ("The Low-Level Radioactive Waste Policy Act Report," dated July 1981), compared the transportation requirements for a regional system to the requirements under the present system. Our evaluation indicated that the use of regional sites as opposed to consolidated sites may reduce distances, and therefore costs and risks, by up to 50 percent.

From an institutional and regulatory standpoint, the formation of regional compacts may introduce further complexity into the current situation by producing multiple levels of governmental regulation and enforcement. However, the Department of Transportation (DOT) regulations on routing of radioactive material require that all state and local government rules be consistent with DOT regulations. Hopefully, this will ensure a nationally consistent system of routing rules. Also, the common goals and sharing of services among Compact members may aid in the resolution of current issues in the regulation of low-level waste transportation. As an appendix, I have attached our analysis on transportation. In summary, transportation of LLW within a system of regional compacts will probably be less expensive and safer than current practices.

With respect to the extent to which the Compact duplicates, interferes with or enhances Federal regulation of LLW, DOE does not regulate any LLW except its own. LLW generated commercially or by Federal facilities other than DOE is regulated by the Nuclear Regulatory Commission, Agreement States, and the Department of Transportation. Management of our LLW is excluded from NRC regulation by law. However, we are in full compliance with the Department of Transportation hazardous materials transportation requirements. As discussed later, the compact may interfere with the Federal regulation of our LLW and of other Federally-generated LLW. We understand that representatives of NRC and DOT are here to discuss the impact of the compact on their respective regulations. The report we prepared in response to Senator McClure's request for a status on regional compacts includes such analyses by NRC, DOT and DOE. I am submitting that report for the record.

There are areas in the Northwest Compact that we feel the committee should note as it deliberates. Article II (2), as previously noted, has a more restrictive limit of transuranic contaminant than proposed NRC, EPA and DOE limits and it is recommended that the section be changed to be consistent with the proposed limits. Also, the LLW Policy Act excludes certain Federal facilities and certain Federally generated waste from the provisions of all regional compacts. Although the compact excludes Federal waste facilities from the definition of the term "facility", it contains no clear statement

that the compact does not apply to Federally-generated waste. In fact, Article II of the proposed Northwest Compact defines "generator" broadly enough to include all Federal generators of LLW. Also, section 2 of S.2829 authorizes and directs NRC to require its licensees to comply with the provisions of the compact. Federal agencies, other than the Department, are NRC licensees. Therefore, the compact may interfere with the intent of the LLW Policy Act and the present system of disposing of Federal waste.

For example, there are presently two LLW disposal facilities in Washington state. The DOE operates a disposal facility for DOE-generated waste. U.S. Ecology Inc. operates a commercial LLW facility. The compact does not attempt to prevent the DOE facility from receiving out-of-region DOE-generated LLW after January 1, 1986, since the facility is explicitly excluded from the compact's provisions. However, the compact appears to prohibit out-of-region Federally-generated LLW from being disposed of at the commercial facility unless approved by the Northwest Low-Level Waste Compact Committee. This could affect the present pattern of LLW disposal since several Federal agencies currently utilize the commercial LLW disposal sites in Washington--e.g., USGS, Agriculture and Defense.

Article III of the proposed Northwest Compact requires periodic unannounced inspections of generators by the states in which the generator is located, if LLW generated by them is shipped to the commercial LLW disposal site within the region. The Department of Defense (DOD) ships LLW from Army, Navy, and Air Force operations to the commercial LLW disposal site in Washington. Obviously, for national security reasons, the DOD cannot permit unannounced inspection by state officials of its classified areas in the facilities.

In order to clearly exclude Federally-generated waste from the provisions of the compact, we suggest the compact be amended by adding a provision that has been included in other LLW regional compacts and provides: "Nothing in this compact shall be construed to affect the generation or management of waste generated by the Federal Government or Federal research and development activities."

In our judgment, except for the issues noted above, the Northwest Compact

will enhance enforcement of Federal regulations. All of the compact groups have expressed a strong desire to participate in some manner in the regulatory aspects of LLW management. This has engendered some confusion, but we believe this is being resolved between the NRC and the compact groups.

The status of regional compacts has been provided to Senator McClure in a comprehensive report. We have provided you a copy as well as a brief summary for the record. As the report indicates, the Department believes progress has been made to date in formulating regional compacts and we believe that all regional compacts will be established by the January 1, 1986, exclusion date.

In summary, the Department supports the spirit and substance of the LLW Policy Act. Early Congressional discussion and approval of the compacts, as they are introduced, will emphasize Congressional commitment to a regional system of disposal facilities managed by the states. We applaud the Northwest region and support them in their efforts to organize and implement their Compact.

Senator SIMPSON. Now the final panel consists of Dr. Ruth Weiner of the Cascade Chapter of the Sierra Club and Dr. Max DeLong, chairman of the Utility Nuclear Waste Management Group, Edison Electric Institute.

Nice to have both of you here this morning, and Dr. Weiner, if you would, please proceed. Thank you.

STATEMENT OF RUTH WEINER, CHAIRMAN, CASCADE CHAPTER, SIERRA CLUB, AND DR. MAX M. DeLONG, CHAIRMAN, UTILITY NUCLEAR WASTE MANAGEMENT GROUP, EDISON ELECTRIC INSTITUTE

Dr. WEINER. Thank you very much. I would really like to thank the committee for holding this hearing in Seattle, otherwise we would have been completely unable to attend. Also I would like to thank Governor Spellman, if he's no longer here, for his words about Initiative 383, and to thank Senator Gorton for his efforts. We wanted to send a message, and I guess we did send a message. I will read part of my prepared statement and make some additional comments and I'd like to have the statement in full entered into the record.

Senator SIMPSON. Without objection it is so ordered.

Dr. WEINER. Thank you. I would like to echo Senator Williams' comments about opposition to the compact language as it appears in the bill. And the wording of the compact itself has very large loopholes. In particular, waste from outside the compact region can be admitted by a two-thirds vote of the compact committee with the host State concurring, and if the host State says yes, who is going to say no. States outside the region might find it much easier to lobby the Northwest compact region than to set up radioactive waste dumps in their own State. Washington, which has tacitly agreed to be the host State for the Northwest region, is particularly attractive because a dump already exists here. Article V badly needs amending to provide greater public input. I might point out there has been no real public input into the compact negotiations at the present time. Greater responsibility of the States' representatives on the compact committee to the State legislature and more stringent procedures for admitting wastes from outside the region.

PRESSURED TO ACCEPT COMPACT

If we in Washington are particularly vulnerable because the low-level waste dump at Hanford is in operation and currently accepts unlimited amounts of the radioactive wastes and is the only low-level waste dump that does so, you may reasonably question our dissatisfaction with the compact language because the compact was, after all, passed by the State legislature. To some extent I share Senator Williams' feelings about why that happened, but I might point out even in the majority party in the State house, people who entertained the amendment that I'm going to suggest right now, the compact was—I'll use the word railroaded through—by threats that if we didn't pass the language that Idaho had we couldn't get a compact for 2 years. So, in effect, we let Idaho write our legislation for us.

The two amendments that I've suggested in my written statement are, first of all, that the person who sits on the compact committee be someone whose appointment is confirmed by the State senate; and second, that a majority vote of the State legislature is required to admit waste from outside the State of Washington.

As the compact presently reads, it simply leaves too much power in the hands of a single individual.

The second point I'd like to make in my oral statement concerns two amendments that I didn't suggest in my written statement and I'd just like to suggest them for your consideration. In article I on page 2, line 16, it would be nice to insert the words "an environmentally sound management as well as economic management of low-level radioactive waste on a continuing basis." The emphasis on economic management is a little bit dangerous. It means you do it as cheaply as possible. And we'd like to see it done in an environmentally sound manner. Similarly, on page 6 of the bill, line 12, it would be nice to see after the words "in order to maximize public health and safety," "minimize present and future environmental damage."

We are very concerned about radioactive wastes leaking into the environment and we'd like to see congressional intent stated in that manner. The question of the July 1, 1983, date, has been raised by several witnesses and was in the letter that was addressed. 1983 would be very nice, but should not be an excuse to put a bad compact through. If we need to delay until 1986 in order to get good compact language for the Northwest regional compact, that is what we should do.

I'd like to echo Governor Spellman's comment about not moving back from the 1986 deadline. We would like to see the Federal Low-Level Waste Act of 1980 amended also to do more than encourage the States to form regional compacts, but to direct them to form regional compacts. That language is not presently in the compact. They don't have to do it. They should be directed to do it.

We don't believe that Federal generators should be exempt from the compact agreement, by the way.

DISPUTE ON DEFINITION OF LOW-LEVEL WASTE

Finally, I'd like to comment on the definition of the low-level waste adding my comments to those that have gone before. We do not believe that source materials should go to low-level waste sites. There is some presently at the Hanford site, so I would encourage you to keep the definition of low-level waste that is given in article II. We would like to see uranium added to transuranic wastes, and that is eliminated from what is buried at low-level waste sites. Ten nanocuries of uranium is a fair amount of uranium. The uranium there falls into a limbo between transuranic elements and low-level waste. I'd also like to encourage you to keep the 10 nanocuries and force the Nuclear Regulatory Commission to go back to 10 nanocuries. I really don't see why they have gone to 100 instead, 10 times as much. That is not a process over which we have terrible much control.

I'd like to end my statement in order to allow time for questions.

Senator SIMPSON. Thank you very much.

Now please Dr. DeLong.

Dr. DeLong. Senators Simpson and Gorton and Representative Morrison, I am pleased to have the opportunity to appear before you today and testify concerning the Northwest interstate compact on low-level radioactive waste management, and on S. 2829 which would grant the consent of Congress to the compact.

I am manager, special nuclear programs, at Northern States Power Co., and currently serve as chairman of the low-level waste working group of the utility nuclear waste management group [UNWMG]. The UNWMG is a group of 43 publicly owned and investor-owned electric utilities which was formed in 1980 through the merger of two other utility groups, both of which had long been active in the field of nuclear waste management. I am also appearing on behalf of the Edison Electric Institute [EEI], the trade organization of investor-owned utilities which generate approximately 77 percent of all electriicty and serve 69 million customers in the United States; and on behalf of the American Nuclear Energy Council [ANEC], which represents more than 100 organizations having an interest in nuclear power, including private, public, and cooperatively owned utilities, manufacturers, architect-engineers, and a number of firms performing various nuclear fuel cycle activities.

I have submitted to your staff a prepared statement and would ask that that be included in the record.

Senator Simpson. With no objection, so ordered.

Dr. DeLong. Let me begin by expressing our appreciation to the committee for its timely attention to this important matter. This significant legislation affects not only the generation of electricity, but also wastes from medical, educational, and industrial activities as well.

OBJECTIONS TO COMPACT

We would like to congratulate the Northwest region, which is the first to develop a formal compact which has been both approved by a number of States, and submitted to Congress for its consent. There are, however, certain facets of the Northwest compact which, we believe, present problems and to which Congress may wish to direct its attention.

First, the compact, itself, proposes to exclude low-level waste from generators in States outside of the region after July 1, 1983, notwithstanding the specific provision of the Low-Level Radioactive Waste Policy Act which permits such a restriction only after January 1, 1986.

The 1986 date contained in the Low-Level Radioactive Waste Policy Act recognizes that some minimum amount of time is needed for an orderly transition to a regional compact system. This fact is reflected in section 3 of S. 2829 which provides that article IV, paragraph (2) of the compact, precluding the receipt of nonregional waste at a disposal facility in a party State, "shall not take effect until January 1, 1986." We support this section of S. 2829 and its adoption.

Second, the compact places discriminatory restrictions on the shipment of waste by noncompact States into the region some of which could, in effect, exclude such wastes immediately. Under article IV, paragraph (3), each shipment must be accompanied by a certificate of compliance. The certificate must contain a statement that the waste

shipment has been inspected by the official issuing the certificate, his agent, or the NRC. Such an inspection program as prescribed under the compact would tend to duplicate existing regulatory programs of NRC and the Department of Transportation and result in unnecessary complication and delay. Such an inspection program would clearly be excessive in that only a very small number of shipments experience even minor difficulties. These can, and should, be addressed on a case-by-case basis with the particular shippers involved.

Under article IV, paragraph (3) the certificate of compliance must also be accompanied by a binding agreement by the State of origin to reimburse any party State for any liability or expense incurred as a result of an accidental release of such waste during shipment or after such waste reaches the facility. This requirement—which appears to provide for continuing liability, even after disposal—would operate immediately to effectively prohibit the receipt of waste from generators in a nonparty State with constitutional limitations on providing such indemnification for private shipments. Such a result would be clearly inconsistent with the intent of the Low-Level Radioactive Waste Policy Act.

The compact also contains, in article IV, paragraph (5), a provision enabling party States in the region to take action to exclude wastes of such nature and types as they choose from regional disposal facilities within their borders as long as such action is applied equally to all generators within the compact region. Such a provision, however, provides a basis for the selective discrimination against certain generators and is neither necessary nor desirable.

DEFINITION SAID INCONSISTENT

Finally, article II contains a definition—also referred to by other speakers today—of low-level waste which is inconsistent with that in the Low-Level Radioactive Waste Policy Act. Therefore, because it is likely to create problems of application, we recommend that the definition in the act be adopted.

In concluding, we would suggest that Congress may wish to consider this compact along with some others from different regions. We believe that such an approach will provide useful perspective, and also help to insure that a reasonably uniform approach is being achieved throughout the Nation. In addition, comparison might be helpful in providing ideas as to how problem areas may best be resolved.

The Northwest States are to be commended for their initiative in responding promptly to the Low-Level Radioactive Waste Policy Act. Yet, while the Northwest compact represents an important step forward in carrying out the mandate of the act, there are difficulties which should be addressed by Congress.

We remain ready to assist the committee in any way that might be helpful and I would be pleased to answer any questions you might have.

Senator SIMPSON. Thank you very much. Just a few questions.

Dr. Weiner, both the Department of Transportation and the utility waste management group have testified that the regional compact approach to low-level waste management will result in a significant

reduction of the number of shipments of low-level waste and in the total number of miles traveled. Do you agree with that conclusion? Are there steps that you would recommend be taken to even further reduce such shipments?

Dr. WEINER. Yes, in general that conclusion is inescapable. Right now all the roads lead to Hanford and if the system of regional sites becomes operative, clearly less waste will travel and will travel shorter distances. I made the point in my written statement that Alaska and Hawaii for transportation reasons should not be included in the Northwest compact region. It's simply incongruous to include two States where the transportation would have to be over water. They probably should not be part of any compact region at all. The transportation question is a very difficult one because of the bind you get into if you go on safe routes, which are interstates, you go through big cities. If you go through routes which are not interstates, you go on less safe roads. And the question of dispersal of radioactive material in the event of an accident is a very real one. I don't have any suggestions as to what can be done to improve that situation except simply carrying less stuff around and making sure that the packaging is proper.

Right now a lot of low-level waste comes with no particular packaging criteria attached. And by the way, I do think that the systems set up in the proposed legislation for having the generator take the responsibility is a very good one.

Senator SIMPSON. I must say just parenthetically that our good chairman of this committee would challenge your statement. He would say that all roads lead to South Carolina.

Dr. WEINER. Some of them do.

Senator SIMPSON. We have 22,390 cubic meters in volume generated in South Carolina versus 595 cubic meters in Washington. Interesting.

Anyway, a couple others. You say that the Hanford site, the waste there is poorly characterized and, quote, not particularly well handled. And what is the incidence of packaging violations? At the Hanford site in the past few months or years and, in your mind, what steps might be taken to improve the handling of waste shipments by a site operator, briefly?

Dr. WEINER. Since I'm not a State employee and I have no direct—either supervisory capacity or even access to records of the—no easy access to records of violations, I can't tell you what kind of packaging violations there are. But very largely, at least from the—just the public side shows and so on, that the operator of the U.S. ecology has put out, the waste is in general in 55-gallon drums, much of it, and is put into trenches and those trenches when they are full are covered with dirt from the air. If you fly any light plane over the region, you can see that there has been a little bit of trench subsidence.

The characterization of the waste is not the fault of the operator. Until the passage of the Federal Low-Level Waste Act of 1980, there was no definition of low-level waste. Low-level waste was just everything that wasn't characterized as something else. And one of the benefits of 2829 is that we finally have a definition of low-level waste, also in the Federal Low-Level Waste Act. So I would hope that the characterization problem would be at least partly solved by that.

Similarly, the packaging of what goes into a low-level waste site is not always prescribed and as such, prescriptions increase, you have better packaging. So I can't really speak to the question of violations. I don't think currently there's very much to violate and that was one of the concerns that we had.

Senator SIMPSON. Thank you.

Dr. DeLong, in your testimony you urge Congress to amend the date, the exclusionary date, and to restore the January 1, 1986 date in order to provide for an orderly transition to this regional system. Would it be possible, in your judgment, for the other compact regions to obtain the congressional consent to these compacts and for these regions without a currently operating facility to license any facility by that original date, that July 1, 1983 date?

Dr. DELONG. I think it would be rather difficult, very difficult, for many of the regions to have compacts in operation by July 1983. There might be some compacts that would be able to come forward to Congress. I think the significant thing involved with that date, though, is the availability of additional disposal sites. What we as waste shippers have focused on is to have access to new sites by the date in the National Waste Policy Act of January 1, 1986. I think the 1986 date is certainly quite achievable. But certainly the 1983 date would be very difficult for compacts to become operational. The compact might very well have gotten to Congress but disposal sites would not really have reached an operational stage.

Senator SIMPSON. Once we have this regional system of low-level waste disposal compacts in place, it would appear the volume of waste is going to be obviously more evenly spread. And that's one of the key conditions of this. What impact will that reduction in volume have on the economics of low-level waste disposal? Also health and safety. And how will that affect the cost to the generator of the waste?

Dr. DELONG. The reduction in the transportation component involved in low-level waste on its way to a low-level disposal facility will have an improvement on the health and safety aspect of low-level waste. As we shorten the distance, we obviously reduce the contact between the waste and the public, and I think that will definitely improve the health and safety.

In terms of the economics for shippers from the central part of the country, as we reduce our shipping distance to either extreme, for example, to Barnwell or to Hanford, we certainly cut the distance significantly. I think that will reduce our transportation costs and to some extent, improve the economics. Although as we move to a regional system, there are certain costs involved in operating regional sites that perhaps may be higher just because of the smaller volume that is involved in disposal.

Senator SIMPSON. And a final question. Do either of you see that the use of this certificate of convenience might be—where we have the out-of-region waste before shipment to the region of disposal, is this going to result in delays in the shipment of these wastes? And, if so, then is there going to be an increasing corresponding health and safety concern that that delay is going to give rise to?

Dr. DELONG. In the case where there might be more restrictive inspection or transportation requirements in a certain State, I think it

could very likely lead to increased delay in shipments and therefore increased concern about health and safety. So I think the uniform application of transportation and inspection requirements across the country does provide an appropriate recognition of health and safety concerns.

Dr. WEINER. Supposedly the required certificate is to insure that better safety procedures are more acceptable ones to the whole State and can be observed and that is also the delay. It shouldn't be a long delay if everyone is acting in good faith. And the net benefit to the public health should exceed any detriment caused by the delay. That, I assume, is the spirit of the legislation.

Senator SIMPSON. I thank you. Slade.

Senator GORTON. Dr. Weiner, do you really feel that the Congress of the United States should amend this compact so as to require a State senate approval of the State's representative on the compact commission?

Dr. WEINER. Senator, I don't know how you amend legislation at this point, being neither a legislator or an attorney. If it were more appropriate to send the language back with a congressional request for reconsideration to the State legislature, the State legislature is clearly the body that would more appropriately amend it. I simply suggested it because these were the amendments that the Washington Environmental Council suggested in the last session of the legislature and they were not adopted. But we feel that they were very crucial to the appropriate operation of the Northwest regional compact.

Senator GORTON. You mean to say that Congress should concern itself over this internal operation of how the interstate commissioner is appointed or how he makes his decisions when the States presumably have made their decision already? I really don't understand why that process should be of concern to Congress.

Dr. WEINER. Perhaps you're right. In any case, I think the Congress—the present compact legislation which you're in the process of ratifying is not acceptable to us as a citizens' organization and it never was acceptable to us. And I believe that if this language passes, we are putting a great deal of power into the hands of a single individual and we're in effect obviating what the compact is supposed to do because under the present language waste can come in from anywhere. Now if there is some other way that Congress can stop up those loopholes, please do it. Or if it is more appropriate to return the compact to the State legislature, please do it. I'm simply—let me say I had no choice in answering your request for testimony except to express our concern with the compact language. I agree with you that it may not be appropriate for Congress to do something about State confirmation, but the State legislature didn't do. But between Senator Williams' testimony and my own, I think we've outlined quite clearly how this language came to pass our State legislature. And we would very much like to see it reconsidered.

Senator GORTON. So your advice to us, that is Congressmen and Senators from the State of Washington, is that we would be better off to reject this compact than to pass it?

Dr. WEINER. Yes, that would be my——

Senator GORTON. And recognizing the risks that that might mean, that you won't get a compact at all?

Dr. WEINER. Senator, the Congress has been very expeditious in bringing this legislation forward and for one. I think that's terrific. It gave a lie to all our critics who said you'll never get congressional ratification for 10 years, or something like that. We saw it work this time. It seems to me that this expedition of the compact could happen again and would be better off for having a compact that is supported by some citizens' groups—those citizens' groups within the State who are concerned with this whole process. So I would say yes, if you don't ratify this compact and return it to the State, then the State has got to, under the Federal Low-Level Waste Act of 1980, start considering this again. If in addition your rejection to this is coupled with a mandate, an amendment to the Federal Low-Level Waste Act which mandates the formation of regional compacts—formation of regional areas and regional compact missions, then I think we've got the problem taken care of although it may take a few more years. We did at this time in less than about 2 years. We could even meet the 1983 deadline, the proposed 1983 deadline, by going round once more through the State legislature. So I'm really not concerned that it will never happen.

Senator GORTON. I find it difficult to agree with your views of how easy the congressional process would be.

Representative MORRISON. It hasn't worked yet.

Senator GORTON. That you could go through this kind of thing and meet a 1983 deadline is not realistic and Senator Williams pointed out the very real difficulty we will face from States who would just as soon retain the status quo in getting anything ratified and I really believe that your organization ought seriously to consider the downside risks of rejecting this compact and not proceeding forward to it on ending up with nothing at all and the situation of the future being what it is now, where there are probably just two places in the whole country accepting this waste.

Dr. WEINER. Senator, right now even if we accept the 1986 deadline, which we do, we're much better off than we were before. Second, the way our compact reads, it essentially takes the vote of a single individual with no responsibility to the State legislature and, as I've stated before, virtually no public input into the process to allow waste from anywhere to come to Hanford. That responsibility rests with a single individual appointed by the Governor.

Now, if there's some other way to do that, to make it more binding, that in fact it all doesn't come to Hanford, I'd say great. But we feel as if we are really caught on the horns of a dilemma. What you are saying is we've got to approve this one or you might not get any. And what we're saying is that one is not a particularly good one and can easily be worked around. It's so easy to work around the present Northwest regional compact. It's laughably easy.

Senator GORTON. In your view, is there likely to be any set of changes including which you proposed arising out of the States while Congress has it in front of it?

Dr. WEINER. I think there is a very good chance that if we presented our proposed amendments again to the new State legislature that will be seated in January, that these amendments will be given much more serious consideration than they were the last time around.

For one thing. the whole process I don't think could be rushed through again on the theory that because the State of Idaho did it we had to do it in exactly the same fashion. In other words, I think that coming before the upcoming State legislature we would have a much better chance of getting a compact that we approve of.

Senator GORTON. Is that identical changes through the other States as well?

Dr. WEINER. Well, as I understand it—I'm not an attorney—the wording does not have to be identical. That was the way we were forced to adopt the Idaho language in the first place. If the wording had to be identical, then one State drafting legislation would be enough. The other States would just approve that legislation.

Senator GORTON. It needn't be identical, you could go ahead and do that while we ratify this one.

Dr. WEINER. Well, that I don't know.

Senator GORTON. I don't know either. I rather suspect as far as internal management that the States' own votes is concerned, you could do it the way you wish.

Dr. WEINER. Senator, if we could go ahead and change it and Congress would ratify it and then we could change it, I'd say go ahead, please ratify it. Ratify it now and then we'll work with our legislature to make the internal changes. If the internal changes are required before ratification, then clearly we'd prefer to see them. If we could do that—I don't know enough about the workings of these things to do so.

Senator GORTON. Thank you.

Senator SIMPSON. Representative Morrison.

Representative MORRISON. Just one quick question, perhaps for Dr. DeLong.

How much low-level waste is produced in the day-to-day operation of nuclear powerplants?

Dr. DELONG. Well, in our particular utility system where we have three nuclear powerplants, we produce about half the waste in the State of Minnesota, which currently amounts to about 25,000 to 26,000 cubic feet a year.

Representative MORRISON. Any provisions being made for the incineration or any effort to reduce the volume in some of the new designs being approved by the NRC?

Dr. DELONG. We have in place a number of practices which first reduce the waste at the source. We're very careful about what items of clothing or materials or tools actually become contaminated. We find that is probably the most advantageous way to reduce the volume eventually seen at the end. So we reduce the source of waste at the beginning of the process.

We also have a number of other practices that are routine such as compaction of dry active waste or in some cases, solidification of the other materials, which in effect reduces the volume to some extent. We are following such development as incineration and utilization of glass. I think at this point in time we have concerns not only about the technical feasibility of certain of these, but we have concerns about the licensing aspect of say incineration. Perhaps even more importantly, we have concerns about the public acceptability of certain

options. Things like incineration are not immediately perceived by the public as being acceptable; that is, that incineration somehow does not easily translate as an appropriate part of disposal or convincing part of disposal.

And I think we have seen in some other areas PCB's in particular, incineration has a certain amount of public visibility to it. There are other actions that need to be taken, for example, putting the waste into the ground, that are perceived by the public as being acceptable disposal means.

Representative MORRISON. You mentioned you didn't think it advisable to have Alaska or Hawaii involved because of over-water transportation of waste materials. I would have to presume the safety techniques over land where railroads or trucks are running through communities would certainly be objectionable over the rather limited population of the ocean.

Dr. WEINER. The concern there is not with the human population, but if you have a ship carrying radioactive waste that sinks, you are sinking in a salt water medium, and material, at least which is shipped in drums, in metal drums, they corrode very quickly in salt water, and you have dispersal of radioactive material throughout the aquatic atmosphere. Now, depending on what the stuff is, and it's all different kinds of substances, some of these are taken up by the aquatic ecosystem and you get biological concentration and that's where the problem of overwater transportation is a particular one. You don't have that with overland transport. The key question of cleaning up a spill, it seems to me, is much easier if you have an accident on land and you can clean it up than if you have an accident in the water. You're never going to go under water and collect that stuff.

Representative MORRISON. There are a number of countries of the world which dispose of even their high-level radioactive waste at sea.

Dr. WEINER. Many of us feel that's not advisable, and feel it's not advisable to dump more of it.

Representative MORRISON. Thank you, Mr. Chairman.

Senator SIMPSON. And thank you both, Doctor, both of you.

[The prepared statements of Drs. Weiner and DeLong follow:]

Prepared Statement of Dr. Ruth F. Weiner

I am here representing the Washington Environmental Council and the Cascade Chapter of the Sierra Club. I would like to thank the Committee for holding this hearing in Seattle, thus giving us the opportunity to testify, and to congratulate you for moving toward compact ratification so expeditiously. There have been accusations in the past that the interstate compact idea was a poor one because it could take ten years or more to get Congressional ratification!

Moving to substantive concerns with S 2829, I would like to comment on those points addressed in the Chairman's letter of October 19, 1982:

1. The definition of "low-level waste" (LLW) given in Article LL(2) appears to be acceptable, if the words "uranium or" are added on page 3, line 9, so that the line reads "... containing more than ten (10) nanocuries of uranium or transuranic contaminants..." This change in the definition might eliminate mining and mill wastes from LLW, but these are handled differently in any case. This addition to the definition is important because there is, at present, some U-235 stored at the LLW site at Hanford (according to reports received by the Washington State legislature).

A few years ago, we in Washington suggested the following alternate definition for LLW: "material which, if it were accidentally uncovered and/or otherwise dispersed in the environment after 100 years of burial, would cause no detectable environmental or health effects". This definition would be preferred over the one in S 2829, but would require redefinition of high-level waste and the creation of some additional, as yet undefined, categories of radioactive waste.

2. One would hope that Congressional approval of the Northwest Interstate Compact would encourage states outside the Pacific northwest compact region to enter into regional compacts with geographically adjacent states and identify regional LLW sites. This was the initial idea of the compact, as we envisioned it when we wrote Initiative 383 and when we supported the Low Level Radioactive Waste Policy Act of 1980. One can reasonably assume that sites at least as good as Hanford exist in other parts of the U.S. - Hanford, with demonstrated subsidence of closed trenches and a water table only 100 feet below the surface, is not an unusually good site, and may not even be the best in the region.

Unfortunately, the wording of the compact itself (Article V of S 2829) has loopholes quite large enough to admit truckloads of radioactive waste from anywhere. In the words of Article V, waste from outside the region can be admitted by a two-thrids vote of the compact committee, with the host state concurring (and if the host state says "yes", who is going to say "no"?). States outside the region might find it much easier and cheaper to lobby the Northwest compact states them to site a dump in another state. Lobbying the state of Washington this way look particularly attractive because it is already tacitly identified as the Northwest "host state" and already contains a dump. Article V badly needs amending to provide greater public input, greater responsibility of the State's representative on the compact committee to the State Legislature, and more stringent procedures for admitting wastes from outside the region. We in Washington are particularly vulnerable because the LLW dump at Hanford is in operation and currently accepts unlimited amounts of radioactive waste.

You might reasonably question our dissatisfaction with the compact language by pointing out that the compact was, after all, passed by our State Legislature. Let me thus indulge in some legislative history. When the compact legislation came before the State legislature, we suggested the same amendments which I will suggest below. The amendments were rejected because the author of the compact legislation threatened that if we didn't have the same language as Idaho, we couldn't get any language for two years because the Idaho legislature would not meet again, Idaho had already approved this language, and not even minor amendments could be considered. We were railroaded into having the State of Idaho, in effect, write Washington legislation. The legislation was rushed through unamended; the alleged reason for the rush was time pressure to get the compact ratified. We do not support Article V as it now reads, and would like to see it amended as follows:

(a) page 7 line 16: delete " official of that State" and substitute "person whose designation is confirmed by the State Senate"

(b) page 8 line 8: after "located..." insert "and the majority vote of the State Legislature".

As Article V reads now, the responsibility of approving waste shipments to Washington from anywhere rests too heavily with a single individual - Washington's representative on the compact committee. Moreover, while there is no need for that individual to be an "official of the State", there is a need for responsibility to the State Legislature!

3. Since a great deal of LLW is generated east of the Missouri River and south of the Oregon-California border, the establishment of regional LLW sites should decrease the disctances over which this waste must be transported, and thus decrease the general environmental hazard posed by LLW. We must recognize that LLW is not necessarily low specific activity (LSA) waste, and that the possiblity of dispersal of a lot of radioactive material in the environment by a transportation accident is considerable. It would be a good idea to amend Article VI to remove Alaska and Hawaii from the Northwest compact. Transportation considerations make inclusion of these states incongruous.

A system of regional compacts and storage sites should decrease public exposure to radioactive materials. More specific transportation regulations should be developed by DOT for LLW wastes which have high specific activity. The siting of waste dumps should consider the adequacy of transportation routes. Hanford is a good example of the dilemma which can be imposed by transportation problems: Hanford is accessible by I-90, a good routs but one which goes right through downtown Spokane, or by I-82 - a short stretch of interstate highway through an unpopulated area, but preceded by more hazardous two-lane roads. If all LLW goes to Hanford, in the absence of interstate compacts, the dispersal of radioactive material from transportatinn accidents is sure to increase.

4. The Northwest Interstate Compact neither duplicates nor interferes with Federal regulation of LLW. A propoerly written compact - and the whole compact idea - is an enhancement to Federal regulation. The present existence of only one site that takes unlimited amounts of LLW, Hanford, is an excellent example of the chaotic situation that results from the absence of legislation like the Low Level Radioactive Waste Policy Act of 1980 and S 2829. Hanford currently receives 47% of the LLW generated in the U.S. and will receive 50%

when the Beatty site is closed. As generation of LLW increases, Hanford will absorb the increase. The material coming in to the LLW site at Hanford now is poorly characterized, and not particularly well handled. The increase in volume of waste at that site since 1976 has been astronomical, and the handling of the waste by the site operator could probably be improved.

5 I cannot really comment on the status of other regional compacts. I would like to urge Congress, however, to exercise some oversight in the choice of sites and most states, and not let this choice in each region be a political rather than a scientific one. For example, Carlsbad is not a good site for any sort of radioactive waste storage, and the existence of a DOE experimental program there should not be seen as dedicating the site.. S2829 may not be the appropriate place to address this question, but we need some assurance that the best possible sites are chosen.

Finally, as long as the Low Level Radioactive Waste Act of 1980 only urges the states to form regional compacts, and does not direct the states to do this. it may not happen and most LLW, as we fear, will come to Hanford. We suggest that the 1980 legislation be amended appropriately.

PREPARED STATEMENT OF DR. MAX DELONG

Mr. Chairman and Members of the Committee: I am pleased to have the opportunity to appear before you today and testify concerning the Northwest Interstate Compact on Low-Level Radioactive Waste Management, and on S. 2829 which would grant the consent of Congress to the compact.

I am Manager, Special Nuclear Programs, at Northern States Power Company, and currently serve as Chairman of the Low-Level Waste Working Group of the Utility Nuclear Waste Management Group (UNWMG). The UNWMG is a group of 43 publicly-owned and investor-owned electric utilities*/ which was formed in 1980 through the merger of two other utility groups, both of which had long been active in the field of nuclear waste management. I am also appearing on behalf of the Edison Electric Institute (EEI), the trade organization of investor-owned utilities which generate approximately 77% of all electricity and serve 69,000,000 customers in the United States; and on behalf of the American Nuclear Energy Council (ANEC), which represents more than 100 organizations having an interest in nuclear power, including private, public

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*/ Alabama Power Company; Arizona Public Service Company; Baltimore Gas & Electric Company; Boston Edison Company; Carolina Power & Light Company; The Cincinnati Gas & Electric Company; The Cleveland Electric Illuminating Company; Commonwealth Edison Company; Consolidated Edison Co. of New York, Inc.; The Detroit Edison Company; Duke Power Company; Duquesne Light Company; Florida Power Corporation; Florida Power & Light Company; Georgia Power Company; Gulf States Utilities Company; Houston Lighting & Power Company; Illinois Power Company; Iowa Electric Light & Power Company; Kansas City Power & Light Company; Kansas Gas & Electric Company; Long Island Lighting Company; Los Angeles, Department of Water & Power; Middle South Services, Inc.; Nebraska Public Power District; Niagara Mohawk Power Corporation; Northeast Utilities; Northern States Power Company; Pennsylvania Power & Light Company; Philadelphia Electric Company; Portland General Electric Company; Power Authority of the State of New York; Public Service Electric & Gas Company; Public Service Company of Indiana; Sacramento Municipal Utility District; SNUPPS; Southern California Edison Company; Texas Utilities Company; Toledo Edison Company; Union Electric Company; Virginia Electric & Power Company; Wisconsin Public Service Corporation; Wisconsin Electric Power Company; Yankee Atomic Electric Company.

and cooperatively owned utilities, manufacturers, architect-engineers, and a number of firms performing various nuclear fuel cycle activities.

Let me begin by expressing our appreciation to the Committee for its timely attention to this important matter. The Low-Level Radioactive Waste Policy Act, as passed by Congress in 1980, establishes a policy providing for the disposal of low-level radioactive waste on a regional basis. We support this approach as more equitable and publically acceptable than a system under which a few sites, located essentially at random across the country, serve as hosts for all of the nation's low-level waste. This significant legislation affects not only the generation of electricity, which produces less than 25 percent of the low-level waste generated in the Northwest, but medical, educational and industrial activities as well. The compact we are considering here today is an important step forward in the establishment of a regional system of low-level waste disposal, as envisioned in the Act.

Further, we would like to congratulate the Northwest region. States in other areas of the country have progressed, in varying degrees, toward the establishment of regional affiliations for dealing with low-level waste. The Northwest region, however, is the first to develop a formal compact which has been both approved by a number of states, and submitted to Congress for its consent. The diligence and speed with which states in the Northwest have acted is commendable and offers an excellent example for states in other regions to follow. There are, however, certain facets of the Northwest Compact which, we believe, present problems and to which Congress may wish to direct its attention.

First, the compact, itself, proposes to exclude low-level waste from generators in states outside of the region after July 1, 1983, notwithstanding the specific provision of the

Low-Level Radioactive Waste Policy Act which permits such a restriction only after January 1, 1986. If Congress were to approve the compact as worded, a large number of beneficial services currently provided to the American people through the use of radioactive materials would be threatened because low-level waste generators might find themselves without a site to which to ship waste after July 1 of next year.

The 1986 date contained in the Low-Level Radioactive Waste Policy Act recognizes that some minimum amount of time is needed for an orderly transition to a regional compact system. This fact is reflected in section 3 of S. 2829 which provides that Article IV, paragraph (2) of the compact, precluding the receipt of non-regional waste at a disposal facility in a party state, "shall not take effect until January 1, 1986." We support this section of S. 2829 and its adoption.

Second, the compact places discriminatory restrictions on the shipment of waste by non-compact states into the region some of which could, in effect, exclude such wastes immediately. Under Article IV, paragraph (3), each shipment must be accompanied by a "certificate of compliance" issued by an official of the non-party state of origin "in such form as may be required by the host state." The certificate must contain a statement that the waste shipment has been inspected by the official issuing the certificate, his agent, or the NRC and found to have been packaged in compliance with applicable federal and host state requirements. This requirement would necessitate the establishment of new inspecting organizations by non-party states or the NRC, despite the fact that a separate inspection of each and every shipment by government inspectors is not necessitated by health or safety concerns. Such an inspection program would clearly be excessive in that only a very small number of shipments experience even minor difficulties. These can,

and should, be addressed on a case-by-case basis with the particular shippers involved. Further, the inspection program prescribed under the compact would tend to duplicate existing regulatory programs of the NRC and DOT and result in unnecessary complication and delay. Moreover, assuming states or the NRC were willing to form inspecting organizations, their establishment would require time and significant funding to support.

Under Article IV, paragraph (3) the "certificate of compliance" must also be accompanied by a "binding agreement by the state of origin to reimburse any party state for any liability or expense incurred as a result of an accidental release of such waste during shipment or after such waste reaches the facility." This requirement -- which appears to provide for continuing liability, even after disposal -- would operate immediately to effectively prohibit the receipt of waste from generators in a non-party state with constitutional limitations on providing such indemnification for private shipments. Such a result would be clearly inconsistent with the intent of the Low-Level Radioactive Waste Policy Act.

The certification requirement is also undesirable because it is open-ended in that, again under the terms of Article IV, paragraph (3), the required certificate may contain conditions other than those specifically identified in the compact. This leaves open the possibility that an uncooperative host state could frustrate the Policy Act by imposing requirements which generators could not satisfy, thereby barring, on an absolute basis, non-regional waste.

Separate and apart from the "certificate of compliance" requirement, and in spite of the excellent safety record associated with low-level waste shipments, Article III of the compact requires member states to adopt practices for the regulation of packaging and transportation which not only duplicate existing regulatory programs, but also permit member states to

impose different or more stringent standards than those which currently exist. Thus, this provision of the compact is not only an occasion for unnecessary duplication and cost, but could give rise to requirements which are inconsistent with existing standards; such as those pertaining to shipping containers. The Low-Level Radioactive Waste Policy Act did not convey any authority to restructure -- nor did it contemplate restructuring -- the existing regulatory framework associated with either the transportation of low-level waste or disposal. The development of regional compacts should not provide a mechanism for doing so.

The compact also contains, in Article IV, paragraph (5), a provision enabling party states in the region to take action to exclude wastes of such nature and types as they choose from regional disposal facilities within their borders as long as such action is applied equally to all generators within the compact region. Such a provision, however, provides a basis for the selective discrimination against certain generators and is neither necessary nor desirable.

Finally, Article II contains a definition of low-level waste which is inconsistent with that in the Low-Level Radioactive Waste Policy Act. Therefore, because it is likely to create problems of application, we recommend that the definition in the Act be adopted.

In concluding, we would suggest that Congress may wish to consider this compact along with some others from different regions. We believe that such an approach will provide useful perspective, and also help to ensure that a reasonably uniform approach is being achieved throughout the nation. In addition, comparison might be helpful in providing ideas as to how problem areas may best be resolved.

The Northwest states are to be commended for their initiative in responding promptly to the Low-Level Radioactive Waste

Policy Act. Yet, while the Northwest Compact represents an important step forward in carrying out the mandate of the Act, there are difficulties which should be addressed by Congress. By addressing these problems, Congress will ensure the implementation of a sound and equitable compact accurately reflecting Congressional intent as expressed in the Policy Act.

Senator SIMPSON. The hard fact is in 34 years we have been messing with high-level radioactive waste and, we haven't done anything yet. Now we're going to do it in a lameduck session.

So now we do have just a few minutes if someone from the general public would like to make a few remarks at this time, this would be an opportunity to do so.

Would you give your name, please?

Mr. ALLARD. Forrest Allard, out of pioneer stock of Hanford, White Gloves area. She mentioned that flying over the area in an airplane she could see certain overburdens or excavations. I work out there and I defy anybody to see where you could bury anything, like the Chinese came to that country in the 1920's. People that farm there said they have lots of excavations that had been overburdened and it don't grow over there and it's just rock. If you were fortunate enough to fly over there, you could see gold mine tailings or where we built buildings, they take this overburden and shot rock and put it out, scatter it out in the sagebrush there. That's still there and will always be there. That's the area where they bury this stuff, but it isn't easy—accessible from the air and I don't know how you flew over there without getting shot down.

Senator SIMPSON. You have 1 minute for rebuttal.

Dr. WEINER. I flew over it and survived.

Senator SIMPSON. I flew over Three-Mile Island with Gary Hart and look what happened. Hart still has his hair.

Let me thank all of the participants, and there's 1 minute if anyone would wish to add any comments.

OK. Let me just say that the Judiciary Committee is very well aware of the unique situation that confronts you in this beautiful State, as well as in South Carolina and Nevada. The problem is there and we must address it. We, I think, are hearing your feelings.

It's most helpful for the Judiciary Committee to have had this hearing today and also for the Environment and Public Works Committee and the Subcommittee on Nuclear Regulation, which I chair.

I want to thank the very capable reporters over there. I have been watching them switch back and forth. You have been very, very professional. Thank you.

I want to thank particularly the staff. Jim Curtiss, please introduce yourself, chief counsel and staff director of the Nuclear Regulation Subcommittee and Jim Davenport there, the assistant counsel of the Senate Environment and Public Works Committee, and Sally Rogers, counsel for the Senate Committee on the Judiciary. You have all done a fine job in arranging this and preparation has been excellent and the witness list and I thank you. To Slade Gorton, my fine friend and colleague, my appreciation, as to Sid Morrison, very able Congressman from the heavily affected district indeed in regard to this issue. And to all of you who were good enough to come, thank you for your attendance and hospitality, I thank you.

I think unless something——

Representative MORRISON. Mr. Chairman, I would like to have the privilege of introducing Will Smith who is on the staff of Senator Jackson.

Senator SIMPSON. Oh, yes.

Representative MORRISON. I would like to thank you and ask that the prepared testimony which you have, which I did not give, be submitted as part of the record.

Senator SIMPSON. Without objection.

[The prepared statement follows:]

PREPARED STATEMENT OF REPRESENTATIVE SID MORRISON

Mr. Chairman, Members of the Committee, thank you for inviting me to submit this testimony expressing my views on the Northwest Interstate Compact on Low-Level Radioactive Waste Management. I commend the Chairman and especially my good friend and colleague, Slade Gorton, for initiating action on this vitally important issue. The early leadership of this Committee will prove instrumental in resolving the politically difficult decision concerning low-level nuclear waste disposal.

My immediate interest in this issue is obvious. I represent the central part of Washington State in Congress, a district which includes the 570 square mile Hanford nuclear reservation. Hanford, as you all know, is the central site which will dispose of the low-level nuclear waste for the northwest regional compact. Already roughly 40 percent of the nation's low-level radioactive waste is buried at Hanford.

I have a longstanding interest in devising an equitable and feasible solution to low-level nuclear waste management. As a former member of the Washington State Legislature, I was a representative to the Western Interstate Nuclear Compact. I was not yet a Member of the U.S. House of Representatives when Congress passed the Low-Level Radioactive Waste Policy Act of 1980 (P.L. No. 96–573). And my tenure in the Washington State Legislature had ended by the time the state drafted and approved the Northwest Low-Level Waste Compact.

Despite this, I have an overriding interest in this issue and I'm willing to assist the Committee in any fashion in its efforts to ratify an appropriate low-level nuclear waste compact for the Northwest.

I generally support the concept of regional compacts for the disposal of low-level radioactive wastes. The compact strategy represents a viable compromise; it mandates that each state be responsible for the disposal of the low-level waste generated within its borders but also encourages the establishment of regional state compacts to facilitate efficient waste management. I feel that the creation of such regional compacts is the most appropriate means to avoid the disruption or closure of established waste disposal sites. The compact approach also acknowledges that all states must act together to share the responsibility of low-level nuclear waste disposal.

While I, along with several other Northwest Congressmen, am a sponsor of the congressional ratification of the Northwest Compact (H.R. 7058), I have reservations with some of the specific provisions of the Compact.

The most obvious and immediate concern is the July 1, 1983 exclusion date in the Northwest Regional Compact. The Compact explicitly allows the region to exclude low-level waste from non-compact states after July 1, 1983, fully two and one-half years before the Federal Low-Level Waste Act envisioned such exclusions.

It is generally recognized that the Northwest Compact's exclusion date is unrealistically optimistic. Certainly, it is possible that several states who now regularly ship their low-level waste to Hanford will not be covered by compacts prior to July 1st of next year. These states will be forced to transport their waste products to the Beatty, Nevada facility or to Barnwell in South Carolina. These two nuclear waste facilities could become overloaded, and the longer transport distance increases the shipping expenses and the potential public health risk.

The 1983 exclusion date also provides insufficient time for non-compact states to conduct the necessary environmental reviews to allow siting of low-level nuclear disposal sites within their own borders. Without the opportunity to develop intrastate low-level sites, a non-compact state might be forced to curtail production of low-level radioactive wastes if any of the other two remaining disposal sites closed their borders to nuclear waste shipments. Since much of the low-level waste results from essential activities (medical and therapeutic func-

tions, industrial operations, and university research), the disruption in low-level waste disposal would have far-reaching ramifications.

To remedy this concern, I favor raising the July 1, 1983 exclusion date in the Northwest Compact to bring in conformity with the January 1, 1986 exclusion date in the Federal Act. I believe that the 1986 exclusion date will still act as a sufficient prod to encourage the states to enter into regional state compacts as soon as possible to avoid facing the prospects of developing their own low-level state sites or discontinuing the generation of low-level radioactive waste altogether.

I think the approach taken in Senator Gorton's legislation to remedy the date discrepancy concern is noteworthy. Senator Gorton's bill, S. 2829, conditions congressional concurrence of the Northwest Low-Level Waste Compact on a 1986 exclusion date. I support such an approach provided it is deemed constitutional and will not require subsequent action by the Northwest state legislatures. I believe serious consideration should be given next year to including similar language conditioning congressional concurrence on a 1986 exclusion date in a House ratification bill.

Outside the date discrepancy issue, there are some other inconsistencies in the Northwest Compact which should be resolved.

For instance, the definition in Article II of "low-level waste" is not consistent with that in the Low-Level Radioactive Waste Policy Act. This definition inconsistency could result in problems of application.

The Compact also requires member states to adopt regulations of packaging and transportation of low-level wastes which unnecessarily duplicate existing regulatory programs. The Compact further permits Northwest states to "impose additional or more stringent standards on generators or carriers" than currently exist (Article III, Sec. 6). These additional packaging and transportation standards could well be pre-empted by the Federal regulations since NRC has clearly carved out a federal role in the area of nuclear environmental and safety regulations.

Even prior to the effective date ban on non-compact state waste, the compact places restrictions upon non-compact state shipping low-level wastes to Hanford which could conceivably exclude such waste immediately. For example, there is a certificate of compliance restriction certifying inspection of the waste and proper packaging (Article IV, Sec. 3). It is possible that a new state inspection agency would be required despite the fact that inspection of every shipment is not mandated by health or safety considerations. The new inspection program also would duplicate existing NRC and Department of Transportation regulatory restrictions.

There is also the possibility of discrimination against selected wastes. The Compact specifically allows party states to take unilateral action without congressional approval to exclude certain types of low-level nuclear and hazardous chemical wastes from regional facilities (Article IV, Sec. 5). The only limitation is that the exclusion of specified types of wastes must be applied equally to all generators within the compact region.

This completes the list of concerns I have with the Northwest Compact on Low-Level Radioactive Waste Disposal as currently drafted. I hope these issues will be addressed and resolved by your Committee in the next Congress. I also hope that the House will follow the excellent leadership of this Committee in addressing these issues in order to ensure expeditious ratification of the Compact.

In conclusion, I would like to briefly address the importance of educating the public on low-level radioactive nuclear waste. I strongly believe that public misconception and confusion about the hazards of low-level waste is thwarting public acceptance of nuclear waste disposal at Hanford.

The American public should be assured that low-level radioactive waste is relatively benign and should be sharply distinguished from high-level radioactive waste. High-level waste consists either of the unreprocessed spent full rods from reactors or the highly radioactive liquid that resutls from the reprocessing of the spent nuclear fuel. Low-level waste, in sharp contrast, consists of the ordinary objects that become contaminated through the normal application of nuclear technology. Examples of low-level waste include obsolete equipment, worn-out tools, cleaning materials, gloves and other protecting clothing, material used to make smoke detectors, syringes, and even luminous watch dials.

These low activity radioactive wastes are highly diluted and present no significant health hazard when disposed of in carefully monitored shallow burial

sites like Hanford. The Hanford disposal site operates in conformity with federal environmental regulations to protect public health. Moreover, the transportation risks associated with low-level waste are slight and manageable. Routine federal inspections are conducted and the wastes must be packaged in compliance with federal regulations.

Another fact about low-level waste that it not being effectively communicated to the public is that the operation of commercial nuclear power plants only accounts for a fraction of this nation's low-level waste. The vast majority of the low-level waste is industrial and medical radioactive residuum generated by the nation's factories and hospitals. The radiation medical techniques, which have become increasingly popular and effective at mitigating cancer, produce low-level wastes that are eventually disposed at sites like Hanford.

I think if the public were fully informed about low-level radioactive waste they would begin to understand that it is no different than most of the waste products disposed of every day throughout the country. I hope that our efforts to educate the public about low-level nuclear waste will garner popular support for the Hanford disposal site. Hanford is anxious to play an active role in disposing of the Northwest Compact's low-level waste and we welcome the full support of the northwest community.

Senator SIMPSON. I believe that then will conclude the hearing. I thank you very much.

[Whereupon the meeting was adjourned subject to the call of the Chair.]

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